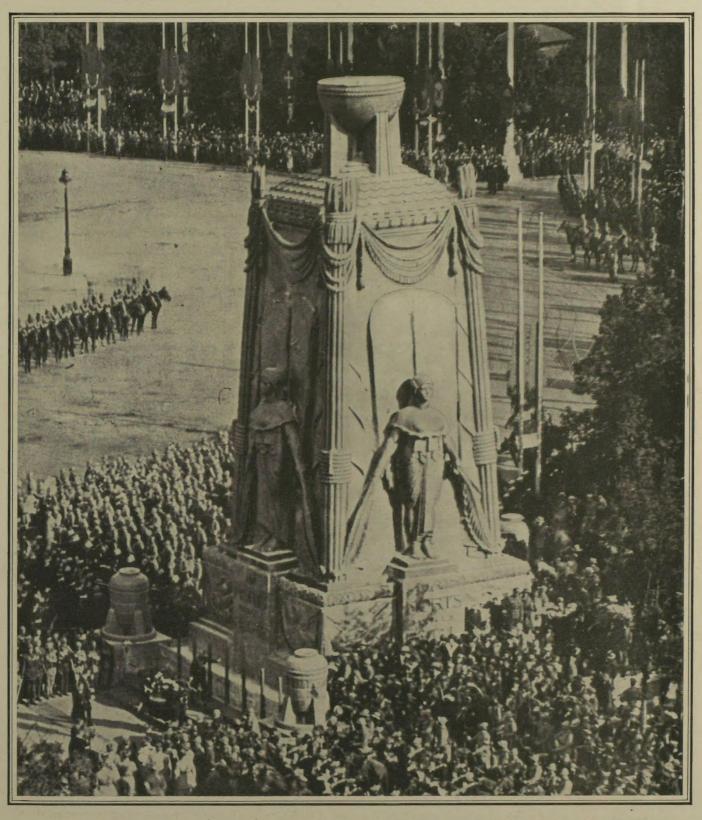
No. 4187. - VOL CLV.

SATURDAY, JULY 19, 1919.

ONE SHILLING.

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"AUX MORTS POUR LA PATRIE": THE MONUMENT TO THE DEAD DURING THE VICTORY CELEBRATIONS IN PARIS-A FRENCH COUNTERPART OF THE PYLON IN WHITEHALL.

The great Victory pageant in Paris on July 14 began with the arrival of the President of the Republic at the beautiful cenotaph erected near the Arc de Triomphe to the memory of the heroic dead of France. President Poincaré alighted from his carriage and placed a wreath at the base of the memorial, and other wreaths were next deposited by two Zouaves, and set up in Whitehall for the Victory March of July 19.

THE TRIUMPH OF FRANCE: THE GREAT PAGEANT OF VICTORY PASSING THROUGH THE REOPENED ARC DE TRIOMPHE.

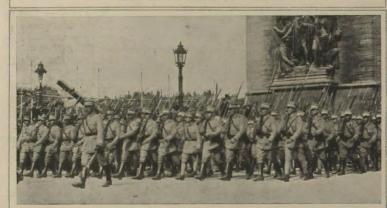
PHOTOGRAPHS BY C.N. AND ILLUSTRATIONS BUREAU.



THE UNITED STATES CONTINGENT HEADS THE ALLIES: AMERICAN FLAGS IN THE PROCESSION PASSING THROUGH THE ARC DE TRIOMPHE



ITALY COMES FOURTH (IN ALPHABETICAL ORDER) IN THE MARCH-PAST: THE ITALIAN NAVAL DETACHMENT.



REPRESENTING THE ARMY OF POLAND, WHICH HAS A NEW WHITE-AND-PURPLE STANDARD: POLISH INFANTRY IN THE PROCESSION.



PICTURESQUE IN THEIR FLOWING NATIVE UNIFORM: CAVALRY OF THE FRENCH COLONIAL ARMY AT THE ARC DE TRIOMPHE.



THE ARC DE TRIOMPHE AND BETWEEN THE CENOTAPH TO THE



HEROES OF 1914 AND 1918: MARSHALS FOCH AND JOFFRE RIDING SIDE BY SIDE.



THE HEART OF THE GREAT PAGEANT: A GENERAL VIEW OF THE PLACE DE L'ÉTOILE, WITH TROOPS MARCHING THROUGH DEAD (ON THE RIGHT) AND THE PRESIDENTIAL TRIBUNE (LEFT).



HONOUR TO THE WOUNDED: ONE OF THE MUTILES WHO PASSED FIRST THROUGH THE ARC DE TRIOMPHE.



REPRESENTING THE NAVY OF THE UNITED STATES: THE AMERICAN NAVAL DETACHMENT IN THE VICTORY MARCH.



REPRESENTING THE NAVY OF GREAT BRITAIN: THE BRITISH NAVAL DETACH-MENT MARCHING IN THE PROCESSION.



PART OF THE GLORIOUS ARMY OF FRANCE WHICH FORMED THE MAIN MASS OF THE PROCESSION: FRENCH CAVALRY.



HISTORY ON THE MARCH": A SPLENDID GROUP OF BRITISH REGIMENTAL COLOURS BORNE IN THE PROCESSION.

The 14th of July—the nati..nal fête day of France—was the day of the great pageant of victory in Paris, the "triumph" of France and her Allies. The heart of it all was the Arc de Triomphe, in the Place de l'Étoile, where twelve stately avenues converge. Since 1870 none had passed through the arch, which was closed by a barrier of chains. With a fine feeling for the true spirit of the ceremony, France paid the first honours of the day to the memory of the million and more of her heroic dead. The President was the first to lay a wreath at the base of the gilded cenotaph, which during the previous night had stood beneath the arch, with memorial altars burning. Then, before the troops, there came through the arch, first of all, a wounded

man on a stretcher, at the head of some room more of the mutilés, men broken in the war on behalf of their country. Next, at the head of the troops, rode Marshal Foch, on his charger Emir, side by-side with Marshal Joffre, on whose presence there he had insisted. Then came detachments of the chief Allies in alphabetical order: first the Americans and then, in turn, the Belgians, British, Italians, and Japanese. They were followed by the Greeks, Portuguese, Serbians, Poles, Siamese, Czecho-Slovaks, and Roumanians. At the rear marched the great mass of the French troops, headed by Marshal Pétain. The British were led by Sir Douglas Haig, and with them were carried some 200 British regimental colours.



By G. K. CHESTERTON

THERE is one aspect of all the talk about the trial of the Kaiser which seems to be strangely overlooked-at least, by most of the talkers. It may be put shortly by saying that to deal with him as the devil of Germany does definitely imply that the devil has been cast out. Even Pacifists generally admit that Germany did behave at certain times as if possessed of a devil. But it ought to be the Pacifists who pursue the Kaiser with special vengeance, since it was the Pacifists who specialised in the explanation that the evil was only in the Kaiserdom. Probably the Pacifists will not be consistent in this, or in many other things. But the most extreme opponents of the Pacifists are hardly more consistent. For they can hardly hold, as they do, that there was an

equally evil movement in the whole German democracy, and then condemn the Kaiser for having imposed it like a despot. Anyhow, if the Emperor was the evil, it can hardly be denied that Germany has purged herself of that evil. Whether a whole people can really get rid of its past by sending one egotistical old gentleman to live in Holland may be another question. That he is responsible for some wicked things is most probable; that he is responsible for many silly things is certain. If I seem to speak of him as a scapegoat, I am not denying that he played the goat. But if we fall into the habit of talking as if he were responsible for everything, we certainly do so far relieve the Germans of responsibility. And when we reach that point we are met by an extraordinary fact.

For certain of the Germans in Germany step forward and accept responsibility. The first of them, the famous soldier Hindenburg, distinctly says that he did what was done by Prussian militarism, and presumably what was denounced as Prussian militarism. Hindenburg was not driven out of Germany

Hindenburg was not exiled to Holland; Hindenburg was not even deprived of his power, far less of his influence. He is, to say the least of it, tolerated by the new Germany; and he publicly identifies himself with the old Germany. I am not judging the old General's action; he may be acting generously. He may not be so black as he is painted by himself. I merely point out that in our view he is painting himself black, and it is all the blacker if in his own view he is painting himself white. In any case, the black and white are as plain as they are on a Prussian post. He says quite simply, in so many words, that the man responsible for the campaign

which civilisation condemns is not the man who has been deposed, but the man who has not been deposed. The man we have disarmed was innocent; the man still in arms was guilty. This is surely a very remarkable and arresting statement; and it is astonishing that so many fail to see it.

Now it is a far more practical problem for the future whether we can trust what is now the German Republic than whether we can trust one particular man who is no longer the German Emperor. And that problem is very practically affected by the fact that a man can boast of having commanded the military methods now brought to judgment not only while he is still in

duced a new Government.



Germany, but apparently without arousing any particular surprise or repudiation in Germany. If the Germans removed Hohenzollern and retained Hindenburg, what is their attitude when Hindenburg avows all the actions of Hohenzollern? Their attitude to the General must be a measure of their real moral change; and we can only say that, if they were so moral and so much changed as some suggest to us, they would probably tear the General in pieces. I do not want him torn in pieces particularly; but that is because I do not believe that they are much less responsible than he is. I suspect that the financial, scientific, and

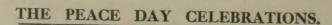
educational elements in Germany had all the bellicose vices of the Junker, and perhaps less of his bellicose virtues. I have always insisted that the moral disease was something highly modernwas not (as innocent people say) merely militaristic; and most certainly was not (as idiotic people say) merely mediæval. What were called the new ideas were by far the most dangerous; and for me, therefore, the difficulty is not finally met when the new ideas have themselves pro-

Prussianism was full of that typically modern combination of moral anarchy with mechanical order. Not only in military, but in mercantile

and other social things, Prussia made herself the authority and awful example of this general modern evil. For instance, no modern capitalists made more ruthless use of the low trade tricks of underselling and freezing out than did the German Jews who carried German trade round the world. This commercial practice is not mediæval. A man was often hanged in the Middle Ages if he attempted it.

When people say that Germany is no longer militaristic, what do they mean? That Hindenburg would not treat the Poles as Bissing treated the Belgians? Hindenburg himself does not leave us with that impression. And the Poles are the permanent test in the matter, for, if Germans were repentant about anything, it must be about Poland. When people say that Germany is now Socialistic, what exactly do they mean? Do they mean that a German firm would not now use any of these corruptions of capitalism against any rival? Does it mean what I always meant by Socialism when I was a Socialist-that the very existence of profits in this sense has ceased; that

there are neither rich nor poor in Germany, but only fairly paid servants of the State? The German commercial utterances themselves do not leave us with that impression. I am far from saying that Germany may not be the better for what has happened; and I am at the opposite pole from saying that Europe will not be the better for it. But the guarantee, for the pre-sent, lies in the proof that the brutality has been broken in practice, not in any proof that it has been dropped in theory. There is only one good thing in all this vast scientific religion of success, and that is its failure.



THE "R 34" ACROSS THE ATLANTIC: THE LANDING ON LONG ISLAND.

PHOTOGRAPHS BY CHNIRAL PRESS AND TOPICAL.



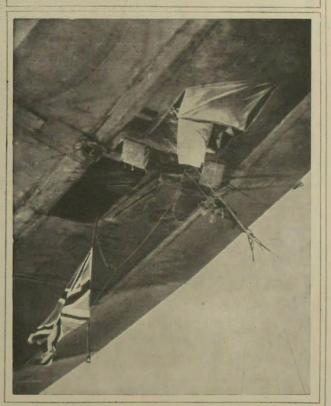
MAJOR PRITCHARD'S PARACHUTE-DESCENT FROM THE "R34":
THE FIRST MAN TO LAND IN AMERICA FROM THE AIR.



AS SEEN FROM AN AMERICAN "BLIMP": AN AERIAL VIEW OF THE "R 34" LANDING AT MINEOLA,



JUST COME TO EARTH IN ROOSEVELT FIELD, MINEOLA, LONG ISLAND: A VIEW OF THE "R 34" FROM BELOW.



SHOWING THE RENT IN THE COVER: DAMAGE TO THE "R34" BY THE TEARING AWAY OF THE MOORING-RING AT MINEOLA.

The "R 34," which left East Fortune at 1.42 a.m. on July 2, arrived at the Mineola Aerodrome, Long Island, New York, at 10 a.m. on July 6. She had just enough petrol left to have enabled her to fly for another 40 minutes. As she approached Mineola, at about 9 a.m., a tiny object was seen to detach itself from the rear gondola and float earthward. It was Major John Pritchard, who had jumped out in a parachute in order to give landing instructions. He landed safely in front of the grand stand, and was taken to headquarters on a motor-cycle. When about 300 ft. up, the "R 34" dropped an

anchor, which the landing parties seized to haul her down. Early next morning, while she was moored in the open, the heat of the sun caused such an expansion of gas that the airship became almost unmanageable. The strain was so great that the mooring-ring in the nose was torn out, and the nose shot straight up in the air, the craft being held only by the after gondola. Some of the crew climbed up and lowered a rope, by which the nose was pulled down again. A hole about 10 ft by 5 ft. was torn in the fabric. The "R34" left Mineola on her return flight to England just before midnight on July 9.

ON AMPHIBIOUS AEROPLANES.

UDGING by the experiences of the last few years, J and especially of the last few months, as well as by the obvious needs of civil aerial transport in the it seems that there will be a very distinct demand for amphibious aeroplanes-that is to say, aeroplanes which can alight on or start from land or water with equal facility. During the war our seaplanes used to make long reconnaissances and bombing trips over Palestine, in Mesopotamia, and Bulgaria, and often found themselves far from water, where an engine failure would have meant a certain crash. So far as one can remember, such an accident only happened once, and that was when a French seaplane with a British observer on board came down in the desert between the Suez Canal and Palestine; and on that occasion both the pilot and passenger escaped with slight injuries. But that immunity from accidents seems to have been due rather to luck than judgment. More recently the R.A.F. people in Northern Russia More recently, have been flying seaplanes far in and along the Archangel Railway, and, so far, one has only heard of one being brought down. In this case the pilot found a convenient pond and alighted in

The idea of amphibious aeroplanes is by no means new, for several were built before the war which worked quite well. In 1913 Mr. Mortimer Singer, the anglo-American sportsman, and one of the most loyal supporters of the Royal Aero Club in the carly days before it became Royal, offered a handsome prize for the first all-British aeroplane which should start from water, alight on land, start off the land, and alight on the water, six times in succession. The prize was won by a Sopwith "Bat-boat," the first aeroplane of the flying-boat type which was built in this country. The boat, which had a hull of the true hydroplane type, with biplane wings, and a tail carried on tail-booms built on top of it, was driven by a 60-80-h.p. Green engine. It had a simple but ingenious landing carriage, consisting of a wheel carried in a pair of stout forks

on each side of the boat. These forks were arranged to be swung back by means of a winding gear, so that they cleared the surface when the boat was getting off water, and could be swung down below the boat while in the air, so that the machine could alight on land.

it without damage.

The pilot of the machine was that Mr. Harry Hawker who recently became world-famous by being rescued from the sea into which he had fallen in the course of a gallant attempt to fly the Atlantic. The passenger was Lieutenant Spenser Grey, R.N. (later Lieutenant-Colonel R.A.F. and a D.S.O.) Mr. Hawker took the boat off the Solent and landed it on the Isle of Wight near Osborne College, and flew back to the Solent, six times successfully, and thus won the prize. The winding gear for the under-carriage wound up beautifully, but was obstinate about unwinding; so every time she left the sea Lieut. Grey had to stand up, put one leg over the side, and kick the under-carriage down so that she could alight on solid ground. That would scarcely be a satisfactory operation to expect from a

passenger in an amphibious comtaercial aeroplane; but it was, at any rate, demonstrated that an aeroplane could be got off land or water at will. The machine flew excellently, and showed great promise if further developed; but no more of her type were built, as there was no demand in those days for commercial aeroplanes, whether amphibious or otherwise.

Another praiseworthy effort to produce an amphibian was made by the Voisin Brothers in Paris much about

the same period. This was a very big biplane of the type called by the French a "canard," or "duck," because, unlike the ordinary aeroplane, which has its big planes in front and a small tail-plane behind, it had the small planes leading—just as in the flying model aeroplanes driven by elastic which are the joy of the modern boy. There were two big floats under

or, oyal lays for

MUSIC IN THE AIR TO PROMOTE THE "VICTORY" LOAN: A BAND PLAYING ON BOARD THE "R 33" DURING HER NORTHERN TOUR.

The "R33" recently made a 31-hours' flight to advertise the "Victory" Loan, passing over Sheffield, Bradford, Manchester, Liverspool, North Wales, the Isle of Man, and the Irish Coast. She had previously flown-over London.—[Phidograph by 1.B.]

the main planes behind, with a pair of landing-wheels between them, and a single float under the smaller planes in front, with another pair of wheels, one on each



SLEEP IN THE AIR: MEMBERS OF THE CREW OF THE "R33" SNATCHING A FEW HOURS' REST BETWEEN WATCHES, ON THE MESS DECK.

The photograph shows a section of the triangular passage way inside the airship's keel. At this point it is floored over for the crew's quarters. Beyond is seen the narrow plank that runs the whole length of the keel, with petrol-tanks on each side.—[Photograph by I.B.]

side of this float. This machine made a number of flights, starting from the big military drill ground at Issy-les-Moulineaux, alighting on the Seine near Sèvres, and thence flying back to Issy. It was eventually smashed at Monaco, for, although it was flyable in calm weather and from still water, it was very clumsy and unmanageable in a wind.

A year or so later, the Caudron brothers built a small amphibian of the ordinary seaplane type with

By C. G. GREY, Editor of "The Aeroplane."

two floats. Each float had a long slot cut in it, and in this slot was a wheel the tyre of which projected a few inches below the bottom of the float. The machine got off the sand at Deauville quite well and alighted on the sea, but it was unable to get off the water unless there was a slight ripple which allowed the tyre to lift clear of the water. Otherwise the tyre dragged, so that the machine could not gather enough speed to lift itself. Eventually this idea also was abandoned. It is only during the last two or three years that much reliable knowledge has been gained about what the

shapes of the bottoms of seaplane floats and flyingboat hulls ought to be to allow them to get off
the water easily. If that knowledge had been
available then, the Caudrons would never
have tried the method which they used.
But now it should be quite easy to make
a satisfactory amphibian; and though
such a machine must necessarily, by
reason of its two alighting gears, be
heavier than either a land or sea machine,
weight matters less now than in war-time,
and the certainty of being able to make
a safe landing is worth more.

One was moved to descant on this subject by the trip made recently from Hendon to Dublin and back by Mr. Gordon Selfridge on an Airco biplane piloted by Captain Gathergood, A.F.C., who had won the Aerial Derby a few days before. The machine was of the ordinary land-going type, and, though both the pilot and passenger wore life-belts, presumably neither of them was anxious to float about the Irish Sea supported only by a life-belt. And, if they had fallen in and had nct been picked up, the death of so prominent a person as Mr. Selfridge would have been a very bad advertisement for aviation. Happily, their confidence in their Rolls-Royce engine was not misplaced, and they did their double journey without an involuntary stop, so all was well. Nevertheless, they took a risk which would be unnecessary if a satisfactory amphibious aeroplane existed. It is precisely on such a journey as this that the aeroplane stands the best chance of

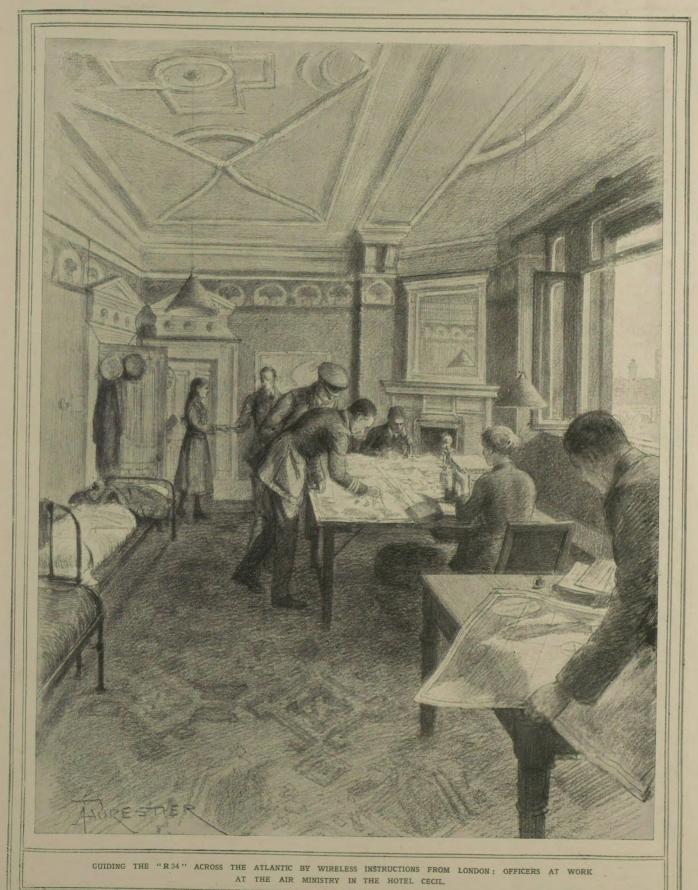
scoring over all other methods of transport. Wherever there are highspeed railways the aeroplane practically cannot compete either for the mail or the passenger traffic. A slight delay owing to fog or to a minor mechanical defect washes out all the aeroplane's advantage of speed. But where the mails or passengers have to be transferred from a train to a boat, and then have a slow boat journey of an hour, or of several hours, and where there is delay in transhipping, then the aeroplane begins to score and to score heavily. Thus on any trip from London to Edinburgh the train would stand a good chance of getting there first; but from London to any part of Ireland, or from London to any part of the Continent, the aeroplane would have the better chance. But, to make these trips properly safe, an amphibious aeroplane would be desirable. Only a few weeks ago two machines fell into the Channel and drowned their crews-one with three men on board, and one with two. And this despite the number of trips which have been made safely week after week.

There are still greater opportunities and still greater needs for amphibious machines abroad, for

aeroplanes will be of greater use in undeveloped countries than in those which are more civilised. And the less developed the country the less chance there will be of finding suitable landing grounds in the way of cultivated or grass land, and the better will be the chance of making a safe landing if the machine can alight in a convenient lake or river. One hopes to elaborate on this theme in an early article, for it is one which opens up great possibilities for the commercial use of aeroplanes.

DIRECTING THE "R 34" BY WIRELESS: A ROOM AT THE AIR MINISTRY.

DRAWN BY OUR SPECIAL ARTIST, A. FORESTIER.



The course of the "R 34" across the Atlantic was guided by wireless from a room in the Air Ministry in London, under the direction of an R.A.F. General, assisted by several officers of the Air Staff, as shown in our illustration. It should be noted, however, that this room did not contain the actual wireless apparatus. News of the airship's position kept arriving at intervals by telephone, and was at once circulated. On receipt of such news, the position was immediately marked on a chart (seen spread upon the table). As

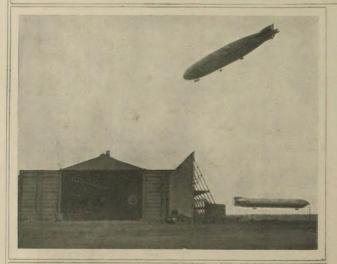
this took place every few hours, the line of flight over the Atlantic was clearly shown. In the drawing the officer in command is seen measuring the distance between the "R34's" position at 3 p.m. and the Irish coast. The General, who has just entered the room to make inquiries, is watching him. In the right foreground an orderly is seen folding a chart of Long Island and the approaches to New York Harbour. On the left are two beds for officers.—[Drawing Copyrighted in the United States and Canada.]

BACK ACROSS THE ATLANTIC IN 75 HOURS: THE RETURN OF "R 34."

Photographs by Sport and General, Illustration's Bureau, Newspaper Illustrations, Central Press, Topical, and C.N.



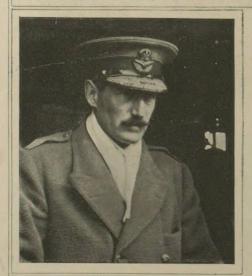
RUNNING TO GRASP A MOORING-ROPE THROWN OUT FROM THE "R 34," ON HER RETURN FROM AMERICA: MEN OF THE LANDING PARTIES
ON THE GROUND AT PULHAM AERODROME, NEAR NORWICH.



READY TO RECEIVE THE "R34" (CIRCLING OVERHEAD): THE GREAT HANGAR AT PULHAM, WITH THE "R33" INSIDE.



TO THE STRAINS OF "SEE THE CONQUERING HERO COMES!" A SUDDEN EJECTION OF WATER-BALLAST FROM THE "R34."



THE OFFICIAL BRITISH OBSERVER ON THE "R 34"; GENERAL MAITLAND AT THE WINDOW.



IN THEIR TRANSATLANTIC KIT: MEN OF THE "R 34'S" CREW.



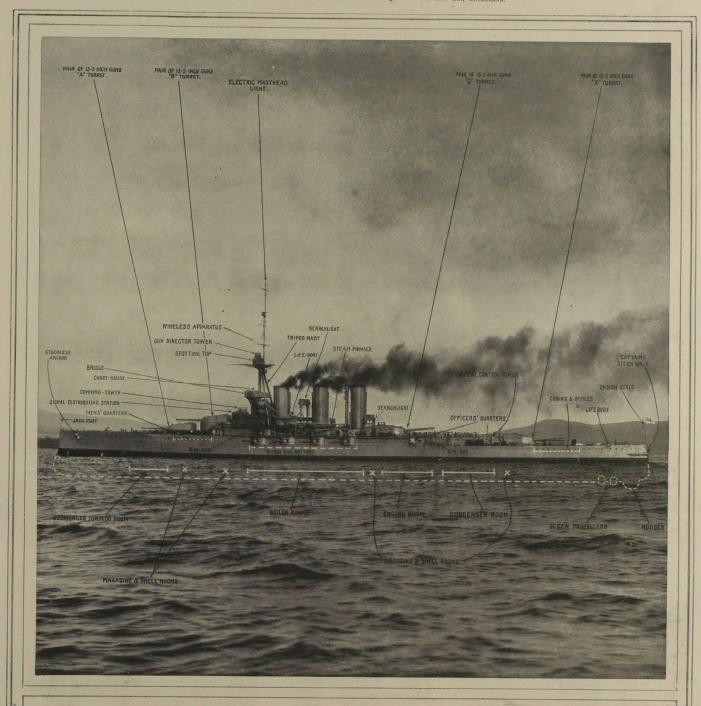
THE CAPTAIN OF THE "R 34": MAJOR G. H. SCOTT AT HIS CABIN WINDOW AS THE AIRSHIP DESCENDED.

The "R 34" landed at Pulham Aerodrome, 14 miles from Norwich, a few minutes after 8 a.m. on July 13, having accomplished the return flight from Long Island, New York, in 75 hours 3 minutes. As she approached the ground, a rope was thrown out, and orders were shouted through a megaphone. Within five minutes the landing party had the airship under control and were hauling her down nearer and nearer to the earth. Just as an R.A.F. band struck up "See the Conquering Hero Comes!" a sheet of water descended as

the "R34" emptied her ballast and water-storage tanks. A few minutes later she was being walked by the guide-rope crews into her shed, where her sister-ship, the "R33," was already reposing. The great size of the hangar (shown in the left-hand photograph in the centre of the page) is indicated by the relative smallness of the Tank by the right-hand door, and the men around it. The airship seen near the ground on the right, moored to a mast, is the "R24."

THE NEW BRITISH NAVY REVEALED: A BATTLE-CRUISER OFTEN "SUNK."

PHOTOGRAPH BY COURTRSY OF THE BUILDERS, MESSRS. JOHN BROWN AND CO., CLYDEBANK,



THE battle-cruiser "Tiger" was one of the Battle-Cruiser Germans, in repeated statements, claimed to have sunk edition of Jane's "Fighting Ships": "Normal displacement, 28,500 tons; full load, about 32,000 tons; length (water-line), 675 ft.; (over-all), 704 ft.; beam, 90 ft.; guns—eight 13.5-inch, twelve of-inch, two 13-pounder anti-aircraft, four 3-pounder, five machine-guns; torpedo-tubes (2r-inch), 2 submerged (broadside); armour, 9 inch belt (amidships), 4-inch belt (ends) (N.B.—After the Battle of Jutland, all battle-cruisers received thicker barbette shields.); designed horse-power, 87,500—28 knots." The "Tiger" was launched at Clydebank, by Messrs. John Brown, in December 1913, and completed in October 1914. During her construction, work was suspended, and her design altered to include certain improvements shown in the new Japanese battle-cruiser "Kongo," which had proved superior to the "Lion" in armament and protection. These alterations caused the "Tiger" to be a year and a-half on the stocks before launching. In his article on the new British Navy on another page of this number, Mr. Archibald Hurd writes "No other fleet can boast of such a squadron of battle-cruisers as Vice-Admiral Sir Roger Keyes has under his orders... The Americans are only now beginning to build their earliest vessels of the type; and the Japanese have so far built only four units, whereas we possess ten, in spite of the losses of war, which included the 'Queen Mary,' 'Indefatigable,' and 'Invincible.' Of these British ships five are with the flag of Admiral Keyes. They comprise the 'Lion,' the 'Tiger,' the 'Princess Royal,' the 'Renown,' and the 'Repulse.'"

THE NEW BRITISH NAVY: LIFTING THE VEIL OF SECRECY.

By ARCHIRALD HURD

I was fitting that, peace having been signed, London should have had an early opportunity of seeing something of the war-tested Fleet of which a good deal has been heard, but nothing seen. For London has always been the upholder of our naval supremacy. Its, above all else, a great seaport; but the modern ship of war is so long and broad and draws so much water that it is now impossible to bring a fleet to London; so London—or such portion of its population as can spare the time—has to go down to Southend to see the new and remarkable ships which have been hidden for five years behind the fog of war.

It is almost exactly ten years since the people of London were able to make a close inspection of the spear-head of the Navy, for it was on July 17, 1909, that the present Admiral of the Fleet Sir William May brought to the sea gateway of the Thames the proudest units of the Royal Navy of that day. The assembly included twenty-four battle-ships, with four of the early Dreadnoughts, three battle-cruisers, and fourteen armoured cruisers, besides a large number of light cruisers and destroyers. So rapid has been the evolution of naval design that not a single unit of the fleet which was seen by Londoners ten years ago is now regarded as war-efficient, and not a few of those vessels have fallen victims to the enemy. The whole of that great collection of men-of-war has disappeared, and Southend is welcoming representative vessels of a new Navy, most of them ships which, though new, possess war records which are now rapidly passing into history.

Whatever may be our deficiencies as a nation, we can at least build ships efficiently, rapidly, and cheaply. When the Great War opened, the British Fleet dis placed almost twice as much water as the German Fleet; but the Admiralty, realising that the future of the whole Empire was at stake, set to work to build another Navy. In all secrecy, it had added nearly 2,000,000 tons of war-ships to the effective list of the Fleet when the Armistice came, and it had on the stocks, in addition, vessels in the aggregate of almost another half-a-million tons, including four mammoth battlecruisers, twenty-one light cruisers, over a hundred destroyers, and four score of submarines. It was decided not to proceed with work on those of the ships which had only recently been begun; but, nevertheless, the Navy has inherited from the war a vast assembly of remarkable vessels of a variety of types. Naval officers and men have become familiar with most of these new and wonderful creations, but to the average man and woman even the names of the majority of

Admiral Sir Charles Madden, the Commander-in-Chief of the assembled fleet, flies his flag in the oilburning battle-ship Queen Elizabeth, which less than a year ago was fleet flag-ship of the Grand Fleet of imperishable memory. Representing a new class of battle-ship, dependent on oil instead of coal, she was completed and placed in commission soon after the opening of the war, and then it was whispered that she had been sent down to the Dardanelles to test her new 15-inch guns, firing shells weighing nearly 2000 lb. against the Turkish positions. Four sister-ships, the Barham, Valiant, Malaya, Warspite, have since been finished and have hoisted the White Ensign. The Queen Elizabeths were joined later on by the five battle-ships of the Royal Sovereign class, also mounting the 15-inch gun. These are also oil-burning ships—which means that they are always spotlessly clean, for coal creates dust and dirt-and have a great radius of action. These ten vessels, now constituting the First and Second Battle Squadrons, under Vice - Admirals Sir S. Fremantle and Sir A. Leveson, are without rivals in any fleet in European waters. In association with a sea-speed exceeding that of the swiftest cruisers of twenty years ago, and with armoured belts of a maximum thickness of thirteen inches, they can bring into action eighty 15-inch guns and 130 6-inch guns

No other fleet can boast of such a squadron of battlecruisers as Vice-Admiral Sir Roger Keyes has under his orders. The Germans were the only people on this side of the world who realised the true inwardness of Lord Fisher's ships of mystery of 1905, described officially merely as "armoured cruisers." They are really very remarkable battle-cruisers—vessels carrying the guns of the most powerful battle-ship, and provided with engines to drive them at the speed of the swiftest cruisers. And, now that the German Navy has practically ceased to exist, there is no other fleet with vessels comparable to those which Sir Roger Keyes commands; for the conversion of the Americans came so late that they are only now beginning to build their earliest vessels of the type; and though the Japanese were quick in appreciating the virtue of high speed in association with great gun power, they have so far built only four units, whereas we possess ten, in spite of the losses of war, which included the Queen Mary, Indefaligable, and Invincible. Of these British ships, five are with the flag of Admiral Keyes. They comprise the Lion (which will always be associated with the name and fame of Admiral of the Fleet Sir David Beatty), the Tiger (which the Germans repeatedly claimed to have sunk), the Princess Royal, the Renown, and the Repulse.

When the war opened, two battle-ships to be known as the Renown and the Repulse had just been laid down. Sir Eustace Tennyson-d'Eyncourt, the Director of Naval Construction, has since revealed what happened at the Admiralty at the close of 1914, when Lord Fisher arrived with new ideas. "Immediately after the battle of the Falkland Islands, in which our battle-cruisers Invincible and Inflexible, in company with other smaller cruisers, annihilated Von Spee's fleet, the value of the battle-cruiser type became very apparent, and, on the initiative of Lord Fisher, then First Sea Lord, it was decided to stop the construction of the Renown and Repulse as battle-ships and to alter the design completely into that of very fast battle-cruisers." They were to have a speed of thirty-two knots, mount six 15-inch guns, and be as heavily armoured as their predecessors.

In most countries it takes at least three years to build one such ship from the time when the design is prepared. Lord Fisher insisted that these two should passed into the fleet within fifteen months-an unprecedented performance. Some unforeseen delays occurred, but, nevertheless, in a little over eighteen months the Renown and her sister-ship hoisted the White Ensign. They are the most remarkable armoured ships ever built, and each can carry no less than 4250 tons of oil fuel. Mounting the same calibre of battle gun as the battle-ships of the Queen Elizabeth and Royal Sovereign classes, they develop a speed nearly seven knots greater than the former and nine knots more than the latter ships. And they can give heavy blows, for a single broadside from the Renown or Repulse weighs over .11,500 lb .- very unpleasant for an enemy. It is small wonder they were regarded as "hush ships" during the war, for the Germans had nothing to approach them in offensive and defensive

These two vessels are not, however, the last word in the construction of big ships. After they had been laid down, four more powerful, swifter, and bigger vessels were begun. It was decided not to continue work upon three of them; but one, the Hood, is now nearing completion. She will displace 40,000 tons of water, being more than twice as heavy as our early battle-cruisers; and she will cost upwards of £6,000,000. It has been rumoured that she will mount a new type of 18-inch gun, and her hull is reported to be torpedoproof. In short, the Hood embodies the lessons of the war, and particularly of the Battle of Jutland. What would Nelson say if he could walk round the deck of such a marvellous creation? His own Victory cost only about £100,000, and the effective range of her guns was not more than a thousand yards, whereas that of the armament of the Hood will be twenty or thirty times as great. If we are forced by rivalry to enter upon a new era of naval competition, it is ships of this type which will have to be built at an enormous expenditure.

Though the *Hood* has yet to join the flag of Sir Charles Madden, he has already under his orders other ships calculated to fill the eyes of all observers. One of the developments of the war is what is known as the "Flying Squadron," consisting of four remarkable ships under the orders of Capt, W. S. Nicholson. This officer's flag-ship is the *Furious*. This ship is officially described as a "light cruiser," but she displaces almost as much water as the battle-ship *Neptune*. She was

designed as a fighting ship, with thin armour protection, a speed of thirty-two knots, and an armament of two 18-inch guns. Early in the spring of 1917 the Fleet urgently needed fast aeroplane-carriers, and it was therefore decided to adapt the Furious to this purpose, eliminating the heavy guns. A large hangar was built on the forecastle deck, and above this construction, which can accommodate about ten aeroplanes, a flying-off platform, 160 feet long, was made. The removal of the after 18-inch gun-turret enabled a flying-on deck, no less than 300 feet long, to be provided. Of all the ships in the fleet, the Furious, with her strange erections, is probably the most notable. Though she is 786 feet long, as compared with 409 feet in the case of the original Dreadnought, she draws only 21½ feet of water. The Flying Squadron includes three other seaplane - carrying ships—the Argus, Vindex, and Vindictive. The British Navy is the first to possess a squadron of this character to act as the eyes and ears of the heavy ships, performing, as there is reason to expect, scouting work more efficiently than it has ever been done by the fastest cruisers.

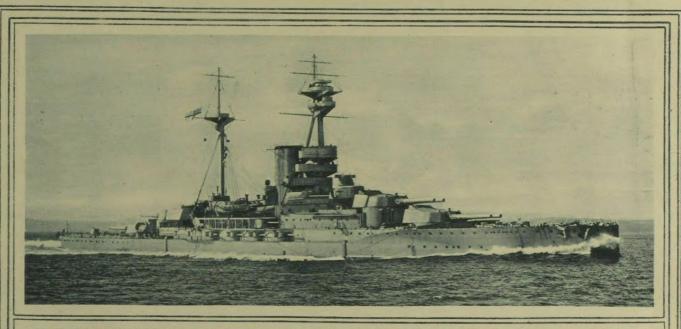
But the time has not yet come when light cruisers can be discarded. Sir Charles Madden will shortly have a squadron of six of these ships, all built since the opening of the war. Three of them are of the "C" class, and are to be seen off Southend, and three are of the "D" class, which are somewhat larger. The latter are the most notable light cruisers afloat, for on a displacement of 4650 tons they carry six 6-inch guns and are pierced for a dozen 21-inch torpedo-tubes, and, in addition, they carry two 3-inch high-angle guns for dealing with aircraft. In spite of this heavy armament, they are capable of a speed of twenty-nine knots, and, into the bargain, they are fairly well protected with armour. Rear-Admiral Sir Walter Cowan has, in fact, a squadron of light cruisers which he may well be proud to command.

The destroyers associated with Sir Charles Madden's great command are larger, swifter, and more powerfully armed than the pre-war vessels of the same type, but they present no such novel features as the submarine flotilla. Remarkable progress was made during the war in the design and construction of these under-water vessels. When hostilities opened, the submarine was a little vessel of slow speed, which usually crept about with a mother ship in attendance to render aid in case of accidents. The British Fleet has now been provided with submarines which are submersible cruisers in all but name. The "K" boats would have filled Jules Verne with delight. They are 338 feet long, with a beam of 261 feet, and have a surface speed of no less than 24 knots-in other words, they can travel more swiftly than the cruiser Powerful, which twenty years ago was the swiftest vessel in the British Fleet; while under water their electric motors drive them at 9 knots. Each is armed with a 4-inch gun, besides a 3-inch anti-aircraft weapon, and possesses eight torpedotubes. These submarines are of quite original design. Besides the steam turbine for going full speed on the surface and the electric drive for use when submerged, they are provided with a Diesel engine which is employed just before diving or immediately after breaking the surface on rising after travelling under water, in order to shorten both these operations and enable the submarines to evade attack by more heavily armed surface craft. Although submarine M I is not included in Sir Charles Madden's command, it is no secret that this vessel mounts a short 12-inch gun. Sir Eustace Tennyson-d'Eyncourt can take pride in the fact that his department produced during the war submarines which can travel faster on the surface and below the surface than any German boat, and that they are more heavily armoured.

Of course, the ships to be seen off Southend represent only a portion of those which constituted the Grand Fleet of immortal renown. Our foreign squadrons have been reconstituted since the Armistice, and there are half-a-dozen battle-ships, besides other vessels, in the Mediterranean. In more distant waters over a score of our newest and swiftest light cruisers are showing the flag in dignity and power. In short, the war being at an end, the British Fleet, distributed over the world's seas, is once more fulfalling its normal duties of keeping the peace.

THE NEW BRITISH NAVY REVEALED: WAR-TIME DREADNOUGHTS.

PHOTOCRAPH OF THE "REVENGE" BY THE BUILDERS, MESSES, VICKERS; THAT OF THE "ROYAL OAK" BY CRIBB, SOUTHSEA.



ONE OF THE "ROYAL SOVEREIGN" CLASS OF BRITISH BATTLE-SHIPS: H.M.S. "REVENGE," LAID DOWN AT THE YARDS OF MESSRS. VICKERS,
AT BARROW, IN DECEMBER 1913, AND COMPLETED IN 1916.



SHOWING A GIRDER CONSTRUCTION FOR AN AEROPLANE LANDING-PLATFORM OVER THE UPPER PAIR OF 15-INCH GUNS, AND A "RANGE-CLOCK" ON THE AFTER DIRECTING TOWER: H.M.S. "ROYAL OAK."

Now that the veil of secrecy which enshrouded the doings of the Navy and the building yards during the war has been lifted, we are able to illustrate—on this and the succeeding pages—some of the most interesting types of ships which were added to the Fleet during hostilities. The "Revenge" and the "Royal Oak" belong to the "Royal Sovereign" class of British Dreadnoughts, as also does the "Ramillies," which is shown on our double-page. The "Royal Oak" was laid down at Devonport Dockyard in January 1914, and completed in May 1916. The above photograph shows a great deal of the detail of

the after-end of the ship. The girder construction on the pair of 15-inch guns in the upper turret is designed to bear the landing platform for the aeroplane which is now carried as a part of the equipment of all first-class ships of the Royal Navy. A similar construction will be noticed on the guns of the upper forward 15-inch turret; this carries a similar platform for launching and landing. The dial on the after directing tower is the "range-clock," which is used for signalling the hitting range when concentrated fire is being directed against a single target by more than one ship of a squadron.

THE NEW BRITISH NAVY REVEALED: A LIGHT CRUISER; A BATTLE-CRUISER.

PHOTOGRAPHS BY COURTRSY OF THE BUILDERS ("ROYALIST") MESSES. BEARDMORE; ("REPULSE") MESSES. JOHN BROWN AND CO.



THE FIRST TYPE OF LIGHT CRUISER OF REALLY HIGH SPEED: H.M.S. "ROYALIST," OF THE "ARETHUSA" CLASS, DESIGNED TO STEAM 30 KNOTS ON OIL-FUEL.



WITH SECONDARY GUNS IN GROUPS OF THREE BEHIND OPEN SHIELDS—AN INNOVATION—AND AN ARMOURED DECK: H.M.S. "REPULSE"—THE LAST WORD IN BATTLE-CRUISERS.

H.M.S. "Royalist," which was completed in March 1915, is a light cruiser of the "Arethusa" class, and carries two 6-inch, six 11-inch, and one high-angle guns. She represents the first type of small cruiser of really high speed, being designed to steam 30 knots on oil-fuel, her turbine engines developing 40,000 h.p. H.M.S. "Repulse" (launached January 8, 1916), with her sister, the "Renown," is the last word in the battle cruiser type. Her armament consists of six 15-inch guns, carried on the centre line. An innovation to the British Navy is to be noted in the fact that the secondary guns are

carried in groups of three behind open shields. They were designed with a lighter armourbelt than is carried by most ships of the battle-cruiser type, and with a 2-inch protective deck. The experience of Jutland, and the loss of the three battle-cruisers, "Queen Mary," 'Indefatigable," and "Invincible" by gun-fire, led to important modifications in the design of the new ships. The long ranges at which fleet actions are fought means that the angle of descent of heavy projectiles is nearly vertical, and side armour is, therefore, of comparatively little advantage.

THE NEW BRITISH NAVY: NO LONGER SECRET-AERO DEPÔT SHIPS.

PHOTOGRAPH OF THE "ARGUS SUPPLIED BY THE BUILDERS, MESSES, REARDMONE; THAT OF THE "FURIOUS BY ADRAHAMS, DEVONPORT.



WITH SMOKE FROM HER HORIZONTAL FUNNELS ISSUING AT THE STERN; AND WITH HER FLAT-TOPPED HULL "DAZZLED"-PAINTED: THE UNIQUE AEROPLANE-CARRIER "ARGUS."



WITH TWO SOPWITH "CAMEL" AEROPLANES AND A SOPWITH SEAPLANE ON HER FORWARD FLIGHT-DECK: H.M.S. "FURIOUS"
BEFORE HER AFTER-MAST WAS REMOVED FOR A SIMILAR FLIGHT-DECK AFT,

M.M. aeroplane-carrier "Argus" is one of the most interesting types created by the needs of the late war. 'The principal feature of this unique ship is that, in order to secure a clear upper-deck for landing and taking off, and also to get rid of the eddy effect of the hot funnel gases, the funnels have been carried horizontally above the main deck, and have their outlet under the stern. The dazzle-painting of the hull gives her a most ungainly appearance; but, in reality, the "Argus" is a ship with rather good lines. She did excellent work with the Grand Fleet in the closing stages of the war. H.M.S.

"Furious" (built at Armstrong's) is one of the famous "Mystery Ships" of the Navy, which are officially designated "large, light cruisers." The "Furious" is a slightly larger ship than her sisters (the "Glorious" and "Courageous"), and was designed to carry two 18-inch guns, against the primary armament of four 15-inch carried by the others. The designed speed was 32 knots. These ships were unique in having no protection except on the gun-positions. The "Furious" (launched August 15, 1916) has now been converted into an aeroplane-carrier.

THE BIGGEST BEAST.

THERE is a prevalent notion, encouraged by the fanciful exaggerations of newspaper gossips, that the animals of past ages whose bones are from time to time dug out of rocks and sand quarries were many of them much bigger than any at present existing, and that we are living in an age of degeneracy. It is true that the mammoth and the mastodon were enormous creatures, but they were not bigger than their living representatives, the great elephants of Africa and India. The African elephant often stands eleven feet high at the shoulder, and occasionally attains twelve feet.

Some eighty years ago Dr. Gideon Mantell became celebrated by his discovery of the bones of huge reptiles—far bigger than any existing crocodile

reptites—far bigger than any existing crocodile or lizard—nearly as big as elephants, in the Wealden rocks of Tilgate Forest in Sussex. He and Sir Richard Owen distinguished several kinds—the Iguanodon, the Megalosaurus, the Hylacosaurus, and others. Models of these creatures as they appeared when clothed in flesh and hide were carefully made, and placed picturesquely among the ponds and islands of the gardens of the dear old Crystal Palace at Sydenham when it was first opened to an enchanted public in the 'fifties. As a small boy I, at that time, fell under their spell.

The passing years have brought to us more complete specimens of these strange beasts—now classed as the "Dinosauria"—and new kinds and complete skeletons of those already known have been discovered in the United States and in Belgium. The leg bones and vertebræ of one of the biggest were found near Oxford, and are in the Oxford Museum; it received the name Ceteosaurus. Only a few years ago a very complete skeleton of a creature closely allied to Ceteosaurus was with great labour and skill dug out of the Jurassic rocks of Wyoming, U.S.A., by Dr. Holland, at the charges of Mr. Andrew Carnegie. It received the name Diplodocus (referring to certain bones in its tail), and a wonderful cast of the completely reconstructed skeleton was presented to the Natural History Museum in London, when I was Director, by Mr. Carnegie. The skeleton is eighty-four feet long; but we must not be mis-led as to the animal's actual bulk by this measurement, for the tail is forty-six feet long and whip-like, whilst the neck is twenty-three feet long and carries a small head not bigger than that of a cart-horse. The jaws were provided with small peg-like teeth, showing that the beast fed on soft vegetable matter. The body, apart from neck and tail, was really only a little bigger than that of a large elephant, and the limb-bones longer in the proportion . of about six to five

The fact is that, if we wish to make an intelligent comparison of the sizes of different animals, we have carefully to ascertain not merely the length measurements, but the proportions of the various parts, and the actual bulk and probable weight of the beasts under consideration. Also (and this is a very important and decisive matter) we must know

whether the beasts were terrestrial in habit, walking with their bodies raised high on their legs, or whether they were aquatic and swam in the lakes or seas, their bodies buoyed up and supported by the water. By far the biggest animals of which we have any knowledge are the various kinds of whales still flourishing in the sea. A mechanical limit is set to the size of land-walking animals, and that limit has been reached by the elephants. "Flesh and blood," and we may add "bone," cannot carry on dry land a greater bulk than his. He is always in danger of sinking by his own weight into soft earth and bog. His legs have to be much thicker in proportion than those of smaller animals—made of the same material—or they would bend and snap. His feet have to be padded with huge discs of fat and fibre to ease the local pressure, and his legs are kept straight, not bent at the joints, when he stands (a fact to which Shakespeare makes Ulysses refer), so that the vast weight of his body shall be supported by the stiff column formed by the upper and lower half of

the limb-bones kept upright in one straight line. A well-grown elephant weighs five tons. Compare his weight and shape with that of a big whalebone-whale—no extinct animal approaches the existing big whale in bulk and weight. He is eighty to ninety feet long, and has no neck nor any length of tail. His outline is egg-like, narrower at the hinder end. He weighs 200 tons—forty times as much as a big elephant—and is perfectly supported without any strain on his structure by the water in which he floats. There is no such limit to his possible size as there is in the case of land-walking animals. But it seems probable that he too is limited in size by mechanical conditions of another kind. Probably he cannot exceed some ninety

DRAWING TO SCALE OF THE UPPER ARM-BONE, OR "HUMERUS,"
OF MAN, THE ELEPHANT, AND GREAT REPTILE OF TENDAGOROO

feet in length and 200 tons of bulk on account of the relatively great increase of proportionate size and power in the heart required in order to propel the blood through such a vast mass of living tissue and keep him "going" as a warm-blooded mammal. The original pattern—the small dog-like ancestor of the whale—cannot be indefinitely expanded as an efficient working machine, though its limit is not determined by the same mechanical causes as those which limit the bulk of the terrestrial quadruped.

These considerations make it clear that we should compare as to "bigness" terrestrial animals with other terrestrial animals, and aquatic animals with aquatic ones. There can be no doubt that Diplodocus was an aquatic reptile, and never raised himself on to his four legs on dry land as the Carnegie skeleton at the Natural History Museum is doing. His legs and feet are quite unfitted to support his weight on a land surface; on land he would have rested on his belly, as a crocodile does, with much-bent legs on each side. But submerged in

twenty feet depth of water, he could have trotted along, half-floating, with his head raised on its long neck to the surface, slowly sucking down the floating vegetation into his moderate-sized mouth.

Diplodocus and Ceteosaurus have huge thigh-bones and upper - arm bones — respectively 5 ft. 9 in. and 3 ft. 2 in. in length—until, lately the biggest known limb bones, although the lower jaw-bone of a Right Whale grows to be 18 ft. in length. But a thigh-bone (femur) of a reptile similar to Diplodocus has been found in Wyoming, 6 ft. 2 in. in length. This reptile was named Atlantosaurus, and a cast of the huge bone—the biggest known when it was placed there—stands

in our museum gallery. However, its glory has departed, for we now know "than this biggest bone, a bigger still." The bones of a huge reptile similar to Diplodocus, but actually twice as big in linear dimensions, were found by Dr. Fraas at Tendagoroo, fifty miles from the coast in German East Africa, and brought safely to Berlin in 1912, though they have not yet been mounted as a complete speci-They were lying in a sandy deposit of the same geologic age as our Sussex Wealden. A special expedition of 500 negroes was sentnot by the Government, but by the Berlin "Society of the Friends of Natural History" (we need such a society in England), at a cost of £10,000, to fetch the bones. They were of many individuals, and had to be skilfully dug out and packed. Dr. Fraas calls this biggest of all quadrupeds "Gigantosaurus." A cast of the humerus, or upper arm-bone, is now exhibited in the Natural History Museum. It is over seven feet in length. The femur, or thigh-bone, was still bigger—it was over ten feet in length. Alas for the glory of Atlantosaurus! This enormous creature was, of course, like Diplodocus, aquatic. Its bulk was much less than that of a big whale, but extinct aquatic reptiles may yet be found of greater size. Ichthyosaurus, the extinct whale-like reptile, does not exceed thirty feet in length. engraving shows the relative size of the humerus of man, the elephant, and the Gigantosaurus. How puny is that human arm-bone! And yet . . .!

When stretched on the shore, resting on the belly, the great lizard of Tendagoroo bulked like a breakwater twelve feet high, and his tail like a huge serpent extended eighty feet beyond it; whilst his head and neck reached forty feet along the mud in front.

An important limitation to great size in an animal is, it must be remembered, often imposed by the nature of the animal's food. Ten individuals each weighing a hundredweight will more easily pick up and swallow the amount of food required to nourish ten hundredweight of the species than will one individual responsible for the whole bulk, provided that the food is scattered and not ready to the mouth in unlimited quantity. A creature which has unlimited forest or grass or seaweed as its food will be at no disadvantage owing to its size.

But a carnivor or a fish-eater or one depending on special fruits and roots not offered to him by nature in mass has to search for, and sometimes to hunt, or at any rate to compete with others, for the scattered and elusive "bits" of food. So it is that we find that the fruiteating apes are not very big, and that terrestrial carnivors are small, though powerful and swift, as compared with cattle, deer, and vegetarian beasts. Ten carnivors weighing each ten stone will with their ten mouths "pick up" more prey than one carnivor weighing a hundred stone and having only one mouth. Even the carnivorous Dinosaurs such as Megalosaurus and Tyrannosaurus were much smaller than the vegetarian Iguanodon, Diplodocus, and Triceratops on which (or on the like of which) they preyed—just as a tiger is smaller than a buffalo, and a wolf smaller than a horse. It is owing to causes of this nature that the life of some animals, and consequently their growth, is limited in duration. Occasionally the common lobster lives to a great age, and grows to be more than two feet long. But he is doomed by his size; the smaller lobsters "go

THE NEW BRITISH NAVY REVEALED: MONITORS, WITH "BLISTERS."

PHOTOGRAPHS BY ABRAHAMS, DEVONFORT; CRIBB, SOUTHSEA; AND THE BUILDERS OF THE "EREBUS," MESSRS. JOHN BROWN AND CO.



SHOWING HER "BLISTER," WITH RAILS FOR FENDING OFF ELECTRICALLY CONTROLLED BOATS: THE GREAT MONITOR "GENERAL WOLFE," CARRYING AN 18-INCH GUN.



SHOWING HER TWO 9-4-INCH GUNS: THE MONITOR "GORGON," ORIGINALLY INTENDED FOR A COAST-DEFENCE BATTLE-SHIP.



BEFORE HER 18-INCH GUN WAS MOUNTED: THE MONITOR "PRINCE EUGENE," WITH 12-INCH GUNS IN FORWARD BARBETTE.



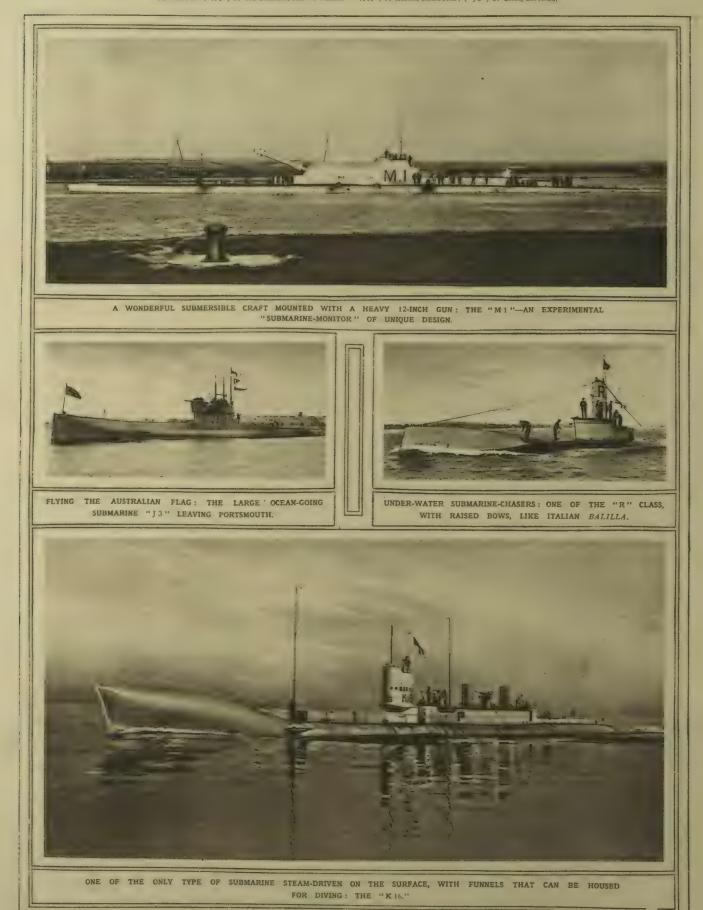
SHOWING (ON THE RIGHT) THE MONITOR "EREBUS," WITH HER "BLISTERS" PLAINLY VISIBLE ON BOTH SIDES: A GROUP OF SHIPS INCLUDING THE BATTLE-CRUISER "REPULSE" (LEFT), TWO "R" DESTROYERS, AND A SUBMARINE.

The "General" class of monitors was completed late in 1915; in 1917 a single 18-inch gun was mounted aft in an open shield. Being intended for long-range bombardment, it was given a high-angle mounting. The "blister" system of protection will be noticed. The rails along the top of the "blister" are for fending off the attack of the electrically controlled boats which the Germans used against our ships on the Belgian coast. The

ship illustrated is the "General Wolfe." The monitor "Gorgon" is one of two ships which were building at Elswick for Norway when the war broke out. The "Prince Eugene" is of the same class as the "General Wolfe." The "Erebus" was designed for the attack of coast positions, particularly Belgian. The ships of this class were heavily armed, carrying two 15-inch and eight 4-inch guns, besides anti-aircraft pieces.

THE NEW BRITISH NAVY: REVELATIONS OF OUR LATEST SUBMARINES.

Photographs—("M1") by the Builders, Messes. Vickers. "K16") by Messes, Beardwore; ("J3") by Cribb, Southsea,



The "MI"—an experimental "submarine-monitor"—is remarkable for carrying a big 12-inch gun. The "J" class of submarines are large ocean-going craft, which displace about 1200 tons on the surface, and rather more than 1400 tons submerged. Nos. 1 to 7 of the class are to be attached to the Australian Navy, and have already left for Australia. The "R" class boats are the last development of the submarine war. Described as

"small coastal boats," they are given a submerged speed of 16 knots, and were designed as under-water submarine-chasers. "K16" represents one of the most interesting developments of naval construction brought about by the war. The "K" boats are the only steam submarines extant, and were designed as "submarine-cruisers" to work with the Grand Fleet. They have a surface displacement of about 3000 tons.

THE NEW BRITISH NAVY REVEALED: DESTROYERS BUILT DURING WAR.

PHOTOGRAPHS BY COURTEST OF THE BUILDERS-("WOOLSTON") MESSES, THORNYCHOLT; ("VANOC") MESSES, JOHN BROWN AND C



WITH TWO GUNS FORWARD, TWO AFT, AND ONE AMIDSHIPS: H.M.S: "WOOLSTON," ONE OF THE LATEST TYPE OF TORPEDO-BOAT DESTROYERS ADDED DURING THE LAST MONTHS OF THE WAR,



SHOWING (AS IN THE "WOOLSTON") THE HORIZONTAL SCREEN BELOW THE UPPER 4-INCH GUNS, TO PROTECT THE CREWS BELOW:
H.M. DESTROYER "VANOC," ONE OF A CLASS BUILT IN 1917-18.

The "Woolston" is one of the latest type of torpedo-boat destroyers added to the Navy List during the last months of the war. Designed for a speed of 35 knots, they have, as a rule, exceeded their contract speed by at least a knot. They carry four 4-inch guns, one high-angle gun, and six 21-inch torpedo-tubes, disposed in two pairs of three tubes. Like all the latest craft of their type, they are oil-burning ships. Some 75 ships of the "V" and "W" classes have been built and commissioned since the beginning

of 1917. The "Vanoc" is one of a class of destroyers built in 1917-18, somewhat similar to the "Woolston," but with a knot less speed and four torpedo-tubes instead of the six of the later "V" and "W" classes. She carries four 4-inch and one 3-inch anti-aircraft guns, and with two sets of turbines, developing 27,000 horse-power, steams 34 knots. A noticeable feature is the horizontal screen below the upper 4-inch guns, to protect the crews of the lower guns from the blast of the discharge.

THE NEW BRITISH NAVY: THE VEIL OF SECRECY LIFTED FROM ONE OF OUR WAR-TIME DREADNOUGHTS.

PHOTOGRAPH SUPPLIED BY THE BUILDERS OF THE "RAMILLIES," MESSRS. BEARDMORE.



DISTINGUISHED (LIKE ALL OF HER CLASS) BY THE SINGLE FUNNEL JUST ABAFT THE TRIPOD MAST, AND THE FUNNEL-SHAPED DIRECTING TOWER AFT: H.M.S. "RAMILLIES."

The "Ramillies" was laid down at Messrs. Beardmore's Dalmuir Works in November 1913, and completed in December 1916. She is one of the "Royal Sovereign" class, which numbers five ships. This class followed the famous "Queen Elizabeths," and carries a slightly heavier secondary armament and somewhat better protection, though. with a smaller displacement. The "Royal Sovereigns" are ships of 25,750 tons, and carry a main armament of eight 15-inch guns. The secondary battery consists of fourteen 6-inch, four 3-pounder, and two high-angle guns for defence against aircraft. They have a speed of 23 knots, against the 25 knots of the "Queen Elizabeths," and are oil-fired ships. In common with all the later ships of the Royal Navy, the "Ramillies" has her primary guns on the centre line, a practice which was introduced in the battle-ships of the "Orion" class, the first of which were completed in 1911. It is interesting to note that the Germans did not follow this disposition of the main armament until the ships of the "König" class, the first of which appeared in 1914. The "Royal Sovereigns" can be easily distinguished from any ships of similar class by the single funnel placed just abaft "the tripod mast, and by the high directing tower aft, which has an appearance somewhat similar to a second low funnel.

WITH HIS OWN RESIDENCE AND GAZETTE: THE HEIR-APPARENT.

PHOTOGRAPH BY VANDYK.

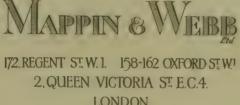


It was announced recently in the "Court Circular" that the Prince of Wates had left Buckingham Palace to take up his residence at St. James's Palace. The "Court Circular" now includes a special "Gazette" issued from the new home of the Heir-Apparent, in addition to those issued from Buckingham Palace and Mariborough House. Since his return from the war, the Prince has assumed an increasing share of the burden of Royalty in the shape of public functions, and he has developed a happy facility in speech-making.

Among his recent activities have been the tour in South Wales and Cornwall, a visit to Trinity House, and admission as a Bencher of the Inner Temple. On July 8 it was announced that he had contracted a severe chill, and had been obliged to cancel all his engagements for the week. Happily he was better in a few days and able to take a motor drive from York House. He has in view a visit to Canada. The Admiralty announced on July 7 that the Prince of Wales had been promoted to the rank of Captain in the Navy.

LADIES'
MOROCCO - LEATHER
TRAVELLING CASE.

Fitted with a complete set of engine-turned Sterling Silver Brushes, Mirror, etc., and Sterling Silver Mounted Toilet Bottles. Complete, £35. Catalogues post free.





"What is infirm from your sound parts shall fly;

Health shall live free, and sickness freely die."—All's Well that Ends Well.—Act 2, Scene 1.



HEALTH IS HAPPINESS

A Pleasant Way to Health.
NO SPECIAL DIET-NO DRUGS-NO LOSS OF TIME.

Just a glass of sparkling, refreshing, purifying

TRADE 66 FRUIT SALT ?? MARK

This is the Natural Way.

This agreeable remedy is known throughout the world and is universally used and appreciated. "FRUIT SALT" is a gentle effective aperient which stimulates the organs of elimination to healthy natural activity. Valuable in relieving ailments due to indigestion, biliousness, constipation and torpid liver. A great aid to the digestive processes and the purification of the blood.

Remember that "FRUIT SALT" has for upwards of forty years been known by the Trade and the Public to mean the saline preparation of J. C. ENO, and no other.

BEWARE OF IMITATIONS. WHEN YOU ASK FOR "FRUIT SALT" SEE THAT YOU CET IT.

Prepared only by

J. C. ENO, Ltd., "Fruit Salt" Works, Pomeroy St., LONDON, S.E.

LADIES' NEWS.

THE season is ending in great gaieties, as one felt that it was sure to do. The Duchess of Portland gave a big dance, at which Prince Albert and Princess Mary enjoyed themselves. The Duchess of Northumberland was another dance hostess, at Syon House, where garden-parties used to be the only occasions for summer revelry; but this Duchess is young and very handsome, and was a hostess to King Edward at Goodwood House while in her teens There are rumours that the Duke will be Viceroy of India if so, her social talents will be very valuable—and the coal miners may be pleased that his Grace will be away and in a climate less dependent than ours on their output He proved a very doughty warrior in the cause of mineowners. Viscountess Ridley also gave a big dance, and her fine house is particularly well suited for such purpose, The black marble staircase is an imposing feature of it, and the ball-room on the first floor a good shape for dancing. The elder daughter of the house, the Hon. Gwladys Ridley, is a débutante of the year. This brings to mind a grievance of friends of débutantes-that no list follows the Garden Party substitutes for Courts, so friends often do not know of this important event in the lives of girls they care for,

There is no doubt that our skirts have reached the limit of shortness. There can be no more change in the upward direction. Therefore, creators of modes are going to change in the downward, and autumn models will show a distinct departure in this direction. All the world has broken away from conventional discipline, and dressdesigners, like Governments, have to think what will be acceptable to people. It is, therefore, fairly certain that we shall not return to the inconvenient and unhygienic skirt touching the ground. The designers say that they are bent on a new outline absolutely different from what we have now, and that greater length of skirt is a necessary item in their scheme. Women are on the tip-toe of expectation, for it is long now since we have had a complete change in fashion. Dresses at Ascot this year differed from those at pre-war Ascots only in the matters of shorter skirts, more fringe, and tabard-like coat-frocks which were not altogether Ascot-like, but may have been cooler and lighter than they looked. The Eton and Harrow match display of dress again differed only in small points from the last pre-war occasion. At balls the shortness of skirt is accentuated; also the sleeves are either eliminated or consist of ethereal drapery. Take it all round, we women will have a change in form of dress, and many of us are dreading it with a delicious kind of fascinating fear.



A PICTURESQUE FROCK.

Jade-green foulard, a black fringe round the top of the skirt, and ruffles at neck and wrists of white accordion-pleated chiffon, form a pleasing tout-ensemble.

Those who have seen much of the Queen lately will be glad when their Majesties get off to Balmoral, bracing air, and comparative leisure. Our first lady of the land looks white and weary, for all her brave spirit is as bright and cheery as ever. The Peace celebrations have taken it out of her, for her Majesty has felt it all very deeply, and has seen the devotion of the crowds with deep emotion. Princess Mary is as jolly as a young girl ought to be who has done her duty through our time of stress of war, and is now joining in the joys of her time of life. The Princess is, like all their Majesties' children, just delightfully young The Queen always tried to keep them out of the limelight and free from self-consciousness, and children up to the last possible minute. The result is just splendid. Those who saw Princess Mary watching the tennis at Wimbledon realised that she was just lost in the game. Anyone who had reminded her that she was the one daughter of the head of the world's greatest Empire would have bored her to tears. The Prince of Wales's illness last week made us all realise that he has tight hold of our heart-strings. So, 'mid stirrings and strifes, and strikes, and upheavals, and lurid talk and writing, we realise that right is might, and that our right-doing Royalties rule by the greatest power in the world-love born of respect.

Most of us are preparing for flight. A very nice pair of friends of mine asked me where I thought they could best flee from Peace festivities and most peacefully celebrate peace. A yacht on the broad sea is their best chance—or bed; everywhere else the world will be a mad one. What we all do look forward to is the North, and the seaside, and the country-house season now close upon us. A lady was beaming over a silk top-coat she had just bought at Burberrys, because she said it brought the coming pleasures nearer to her. A house like Burberrys removes all the handicap our climate would put on these pleasures, for, if Burberry-protected, we certainly profit by and are none the worse for a little buffeting in wind and rain.

The wedding of the Marquess and Marchioness of Bath's eldest daughter to Major the Hon. Oliver Stanley filled St. George's Church, Hanover Square, with quite a representative crowd. It was representative of all that is best in our nobility; and it was representative too of the clannishness of county society, for Wittshire was well to the fore. The bridegroom is a brave man and a first-rate soldier; and the bride, tall, dark-haired, and dark-eyed, is a beautiful girl.

A. E. L.





BRACELET WATCHES

A COMPREHENSIVE selection of Diamond and Gem set Bracelet Watches is displayed at the Goldsmiths & Silversmiths Company, 112, Regent Street, W.; those illustrated being but representative of the many designs available. The Company's Watch Bracelets are distinctive in design, of highest quality, and are the best value obtainable.

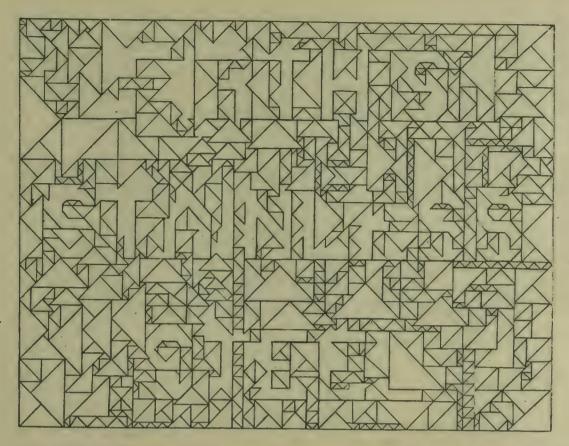
The Goldsmiths & Silversmiths Company will send selections of Watches for approval, at their own risk, or a Catalogue will be posted free on request.

WARNING.

The Goldsmiths and Silversmiths Company have no Branch Establishments in Regent Street, Oxford Street, or elsewhere in London—only one address, 112, Regent Street, London, W.1.

GOLDSMITHS & SILVERSMITHS COMPANY LTD with which is incorporated The Goldsmitte filliance IP Lest 1751

112 REGENT STREET LONDON W.1



A DAZZLING DISCOVERY EMERGES FROM A DAZZLING ADVERTISEMENT.



["The Biggest Beast"-continued from page 90.] quickly around " and get all the food (carrion of the sea). and the big fellow has to starve. The whale-bone whales, it is true, take animal food; but it occurs in the form of minute sea-slugs and shrimps, which fill the surface waters in countless millions over hundreds of miles of Hence the whales of this kind have only to swim

along with their mouths open through an unlimited supply of luscious food. The size of terrestrial animals is also, it appears, definitely related to the natural water - supply. There are very few small quadrupeds in the interior of Africa. On account of fre quent "droughts," the mammals have often to run hundred miles or more in search of water. Only animals as big as the larger antelopes and the zebra can cover the The smaller kinds ground. die (and have, in fact, died out in past ages) in these regions of sudden drought.

The Brighton Railway have announced that they have resumed a day passenger service between London and Paris, commencing on July 15. service will run weekly from July 15 to the 25th: and daily (Sundays commencing included) Monday, July 28, as follows During the tri-weekly period the service will leave London on Tuesdays, Thursdays, and Saturdays; and Paris on Mondays, Wednesdays, and Pridays. The trains will be and Paris on first and second class only,

leaving Victoria 9 a.m., and arriving in Paris (St. Lazare) at 6.45 p.m. The return train will leave Paris (St. Lazare) at 10 a.m., and arrive at Victoria 7.35 p.m.
This new arrangement will, without doubt, be largely taken advantage of during and after the holidays.

HOW WE WON AT SEA.

WHATEVER Mr. Arthur Pollen writes about the VV Navy always and at once attracts a crowd of readers. He has the good fortune—deservedly so, for he stands at the head of our civilian "naval experts" and

facts-also in giving reasons for his opinions. tation will be added to by the book here brought to the special notice of readers of *The Illustrated London News*, "The Navy in Battle" (Chatto and Windus). It deals, of course, only with the Great War, the author's special subject during the past four years, in regard to which he

has written in the Press and lectured on the platform with unsparing assiduity for the benefit and gain of his countrymen at large. In "The Navy in Battle," while taking in the whole range of British sea operations between Heligoland Bight battle of the first month of the war, and the unsurpassable exploit of Zeebrugge, Mr. Pollen concentrates primarily on the major operations-among them, in particular, the tragedy of Coronel, the avenging Falklands Fight, and, of course, Jutland. In the controversy on the tactics of Jutland, Mr. Pollen is a protagonist. As might be expected, throughout the author's deeply absorbing and often illuminating reasonings and balanced judgments on the circumstances and outcome of the various events dealt with in his book, there is much that should give food for very serious thought; but, apart from that, there is a good deal, incidentally, that is replete with what may be termed spectacular or story interest, recorded in Mr. Pollen's pages for the first time, from what people present on the several occasions have told him. One

side-show exploit should in-



SIR SAMUEL WARING, BT., AND THE CIRL-CUIDES MOVEMENT: AN INSPECTION AT FOOTS CRAY PLACE, KENT. The Annual Inspection of the Dartford Division of Girl-Guides took place recently, the Guides being received by Lady Waring, the President; and the salute was taken by the County Commissioner, Miss Hart-Dyke. A display of massed, company, and musical drill (illustrated) was organised by Miss Gladys Waring, the Dartford District Commissioner for Kent, and was carried out with great efficiency, after which the girls took part in various sports. A letter was received from her Majesty Queen Alexandra expressing her best wishes to all taking part.

critics-of having as widespread a vogue among the officers of the fleet as among outsiders, so to speak, among the general public. And rightly and deservedly so, for no man probably knows his subject better, and is more trustworthy and more conscientious as a setter-forth of

terest the most indifferent reader—his quite romantic narrative of how our monitors fought and finished off the German raiding cruiser Königsberg, well up the Rufigi River amidst the jungles of East Africa, destroying by the aid of aeroplanes an enemy out of sight of our gunners.

OSTEND REVERTS TO ITS PRE-WAR ACTIVITIES.

OSTEND

The Kursaal is Open-All Pre-War Attractions.

RACING.-International Meeting July, August, Grand Prix 4,000 sovs.

YACHTING.-International Regatta in July, Sailing Yachts, Motor Yachts, Flying Yachts.

OPERA.—A series of performances of Grand Opera and Lyric Opera will be given at the Theatre Royal.

CONCERTS.—The famous Kursaal Orchestra will give concerts twice daily under the direction of M. Leon Jehin (from Monte Carlo). Festival Concerts will be given under the direction of M. Camille Saint-Saëns, André Messager, Percy Pitt, and Maestro Mugnone.

THEATRE.—The latest Parisian theatrical successes will be produced.

LAWN TENNIS

Direct daily service between London and Ostend via Dover, leaving Charing Cross 8.45 a.m., arriving Ostend 3.30 p.m.

Robinson & (Neavers JULY LINEN SALE



Bargains in Table-cloths, Serviettes, etc.

REMAINS of superfine Damask Table-cloths, Carving Cloths, Serviettes, offered at 25 per cent. under to-day's prices. Can be had either with hemstitched or scalloped borders.

TABLE-CLOTHS ... 53/- each. ... 63/6 ... 73/- ... 85/- ...

24 x 36 in. ... 7/6 each, nen Sheets' and Pillowses, Towels, Apron Line d Men's Wear are als cred at greatly reduce

SPA

The Iron Waters of Spa are renowned for their stimulating effect. They are beneficial for Brain-Fag and all forms of Neurasthenia.

EXCELLENT HOTELS & CASINO

Through Trains between Ostend and Spa.





Ciro Pearls



AS usual when there is a great demand for an article owing to its proved worth, the old story of something just as good is handed out to you.

We fear that people purchase pearls thinking they obtain the same quality as Ciro Pearls. We regret this, as they must eventually be disappointed.

The unique quality of the goods we sell is becoming so universally known through the medium of our satisfied clients and our advertisements, that Ciro Pearls are being asked for continually. We wish to draw the public's attention to the fact that Ciro Pearls may be obtained only at our own establishment.

OUR UNIQUE OFFER.

YOU MAY HAVE CIRO PEARLS ON APPROBATION FOR ONE WEEK.

We will send you a necklet, a ring, or any jewel with Ciro Pearls, on receipt of £1 - 1 - 0

Put it beside any real pearls or any other artificial pearls, and if it is not equal to the genuine, or superior to the other artificial pearls, return it to us, and we will refund your money.

Our Provincial customers may send their orders by the post, and will receive the same attention as if they called upon us personally.

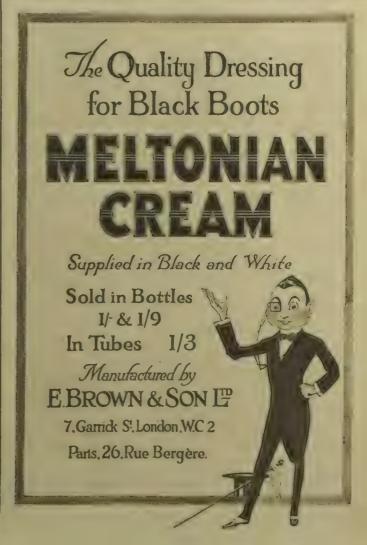
WRITE FOR ILLUSTRATED BOOKLET No. 16 (Post Free).

We have removed from 42, Piccadilly, W.

Our only address now is 39, OLD BOND STREET (just off Piccadilly), 1st floor only.

We have no shop. Tele: Gerr. 3077.

CIRO PEARLS, Ltd. (Dept. 16).



SCIENCE JOTTINGS.

HOLIDAY HORROR

AT least once a year the newspapers attempt to make the flesh of holiday-makers creep by stories of attacks by vipers in quiet country lanes or in restful spots by the river-bank. This year has been no exception to the rule. For a fearsome tale has just gone the round



FIREWORK QUEUES IN SOUTH LONDON: A RUN ON THE PYROTECHNIC TRADE IN PREPARATION FOR PEACE DISPLAYS. Photograph by Photopress

of the papers of an unprovoked attack by one of these creatures on a party of children. But the "viper" in this case was killed, and measured three feet in length. It is well that the length was given, since this shows that the supposed "viper" was really a grass-snake, and therefore perfectly harmless. That this was so we may be the more certain from the statement that the eggs of the creature were found near the spot where the attack was made. The viper does not lay eggs, but the grass-snake does.

Fortunately, we have but three species of snake in these islands, and only one, the viper, has a venomous bite. The grass-snake (Tropidonotus natrix) is the largest of them all, and may attain a length of as much as six

feet, but a yard long is the rule. Apart from its greater length, it may be recognised by a conspicuous collar of yellowish white, contrasting with a black background. The rest of the upper surface of the body is generally of a greenish-olive hue, relieved by short vertical bars of black. It is, however, impossible to describe this coloration accurately, for it displays considerable variation;

even the yellow collar round the neck may be absent, or nearly so; though in this case the black area will be left.

It feeds mainly on fish and frogs, and hence will never be found far from water. The adults, indeed, are semi-aquatic; but, strangely enough, the young will drown easily. The stories of attacks by this species are well founded. Dr. Gadow, of Cambridge, relates how on one occasion he came across a number of these snakes in a small stream in a

They came rushing at him through the water with widely opened mouths—but they did not bite. Usually they are content to hiss, and strike out furiously with the head. But this is mere bluff. Their only to ans of defence lies in the malodorous and which they expel from the anal glands and cloaca; and this is generally effective, for the smell is overpowering and disgusting beyond words. Yet the grass-snake makes a most interesting and gentle pet.

Its eggs, which have a white leathery skin, are laid during July and August in manure heaps and heaps of decaying vegetable matter. The young emerge

during the autumn, and before the winter sets in betake themselves, like their parents, to underground retreats till the warm days of spring call them to life again.

The smooth snake (Coronella lævis), which does not exceed two feet in length, is by means so common as the grass-snake. Hamp-shire and Dorsetshire are its favourite counties. Variable in coloration, it sometimes bears a strong superficial likeness to the adder, or viper. But it can readily be distinguished by the fact that its scales are smooth, the top of the head is covered by large scales, and the pupil of the eye is round. It feeds upon lizards and mice. It

bites, deliberately and firmly, but scarcely ever succeeds in drawing blood. Like the viper, the smooth snake is viviparous, bringing forth about half-a-dozen young

As a matter of fact, the viper is easily distinguished by the conspicuous diamond-shaped patches of black which run down the back, the rough appearance of the scales, and the evil-looking eye, which has a vertical pupil. But variations in colour are not infrequent, and in some specimens the diamond-shaped markings along the back may be very indistinct. Males are smaller than the females, and a maximum length of two feet is never exceeded. When at bay, this species will coil up the body into a spiral, rearing up the head ready to strike, and by this attitude alone it may be recognised. It feeds chiefly upon mice. Heaths and moors are its favourite haunts, but it also is frequently found in hedges, clumps of brambles,



AN ANCIENT CITY CUSTOM: SWEEPING THE STREET BEFORE THE MASTER AND WARDENS OF THE VINTNERS' COMPANY AT THEIR INSTALLATION.

Ancient ceremonies were observed at the installation of the Master and Wardens of the Vintners' Company on July 10. On their way to a service at St. James's, Garlickhithe, Garlick Hill, men walked before them sweeping the street with besoms.

Photograph by Photogress.





"I cannot express my thanks sufficiently for my Sonnykin's splendid health and proportions"

HERE IS THE WHOLE OF THE LETTER THAT THIS BABYS MOTHER WROTE TO GLAXO:

brought up on it, and I have no trouble with him-he is always so contented. I cannot express my thanks sufficiently in gratitude for my sonnykin's splendid health and proportions. Please make whatever use you care to

"Have herewith enclosed a snap-photo of my little son which was taken at 8 months—out of doors. This is evident proof of the qualities of Glaxo, for Baby is entirely derive the benefit of same and own a 'Bonnie Baby!' All success to Glaxo.

Believe me to be, Very sincerely and gratefully, (Mrs.) W__

11 years' experience has proved

happiness it should be-the pride we have in Glaxo Babies is only second to that of baby's own proud mother.

"The House that loves a Baby" has a heart. It is alive with the spirit of determination to do all in its power for those it serves—the mothers and babies of the world.

We like to think that when a mother buys Glaxo she gets not only a safe and suitable food for herself and her baby,

but health and happiness and joy, as well as the whole-hearted co-operation and helpful sympathy of every one of us.

We aim to make "The Glaxo Way" a smooth road to Happy

It is such letters as this that make us proud of the work of putting
Glaxo into the hands of mothers—it is a great privilege to know baby, and by placing at every mother's disposal the fruits of the that we are instrumental in helping to make Motherhood the true experience of those who have grown wise in long years of practical study of the problems of motherhood.

> Glaxo we seek jealously to keep up to its high reputation in every detail—the Glaxo Baby Book to keep up-to-date and even more useful in every new edition the Glaxo Baby Patterns we are proud to be told are the best of their kind—the Glaxo Mothers' Help Bureau is daily proving more and more successful as the solution of a

mother's perplexities. And last, but not least, we seek to give in courtesy, in thoughtful-



ness, in the conscientious carrying out of our duty to mothers and babies always a little more than the letter of the law demands.



Send 7^D Stamps to-day for 136-page Glaxo Baby Book

The Glaxo Baby Book is, in fact, a text-book of Mothercraft—written in language that every mother can understand and apply.



GLAXO (Dept. 23), 155-157, GREAT PORTLAND STREET, LONDON, W. I.

1 Science Tettines" continued and nettle, and is fond of basking in the sun. Solitary in its habits during the summer months, when hibernating they cluster together, sometimes in dozens.

Though the bite of the viper is rarely fatal, the bitten fimb soon swells, and great prostration, vomiting, and cold and clammy perspiration follow in from one to three hours. In severe cases the pulse may become imperceptible, the extremities become cold, and coma follows. In from twelve to twenty-four hours these symptoms pass off, but in the meantime the swelling and discoloration increase enormously.

A ligature should be applied at one above the wound, and an incision made to induce bleeding. Then bandage the limb downwards, towards the wound. But before the bandage is applied, the enlarged wound should be washed with Condy's Fluid. The ligature should be removed after half-an-hour for a

few minutes, then

applied again. If left on too long,

gangrene may be induced. At the same time, small stimulating doses

of alcohol should

be given. Of

course, the aid of

a doctor will be

sought at once,

who will proceed to give injections

Care should be

taken in opening

the mouths of dead

snakes. But if this be done cir-

cumspectly it will

be seen that in

the grass and

smooth snakes there are numer-

ous teeth running

all along the jaw.

In the viper two large fangs will

be found in front

of strychnine.



BY MR ALBERT TOFT, THE WELL-KNOWN SCULPTOR: THE SURMOUNT-ING FIGURE FROM THE EAST SUFFOLK (S.A.) WAR MEMORIAL AT IPSWICH.



FROM THE WAR MEMORIALS EXHIBITION AT THE VICTORIA AND ALBERT MUSEUM: "A MEMORIAL TOWER," DESIGNED BY W. J. PALMER-JONES.

Photograph by Macheth.

of the mouth, with their tips pointing towards the throat; and two or three small teeth will be found in the front of the lower jaw.

W. P. PYCRAFT.

Apart from the soldiers who are now being demobilised, some of the men who have been doing other important work are returning to their former occupations. There is in London an interesting business man of this class — Mr. Howard Heinz, who until recently was acting as chief of the American Relief Commission in the Near East and the Balkan States, working in conjunction with Mr. Hoover. It has been Mr. Heinz's task to look after the inhabitants of the devastated regions of Armenia, the Caucasus, and surrounding districts, who, disorganised and leaderless, would have fared very badly but for the assistance of this Commission. Now, with the organisation of the Near

East relief work left in competent hands, Mr. Heinz is on nis way home to take control of the great business founded fifty years ago by his father, Mr. H. J. Heinz, who made his "57 Varieties" of pure food products known the world over. Recently, at the Holborn Restaurant, London, he has been in conference with upwards of sixty representatives of his British firm, discussing plans for the future of the Heinz business in the British Isles and Europe generally, and arranging for the erection of a new plant in this country to take care of the enormously increased British business.

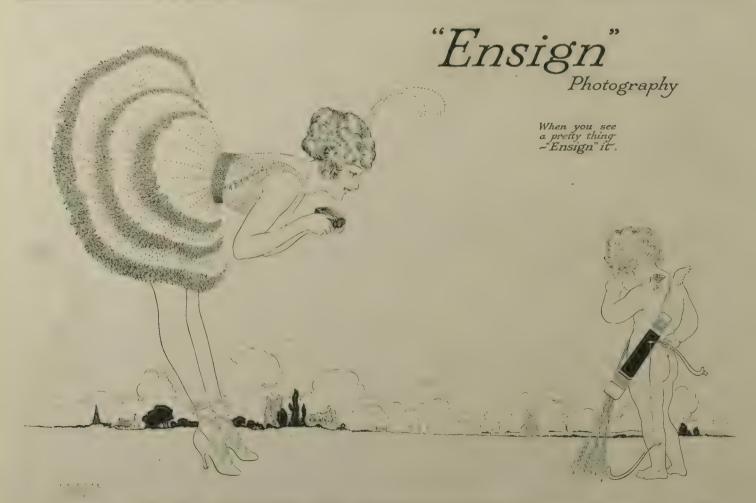
Zenith carburetters have once again proved their superiority and efficiency. The Nieuport plane which beat all the world's records for altitude—namely, 30,800 feet—had Zenith carburetters fitted to the Hispano-Suiza engines.

The British Lighting and Ignition Company, Ltd., who during the war have been established at 204, Tottenham

Court Road, London, W.I, have now re-moved their head office and works to Birmingham. factory, which is a very extensive one is situated in Cheston Road, Aston, Birmingham, and will in future be known as the B.L.I.C. Works. The London depôt and repair works have been established at 201, Tottenham Court Road, and magneto repairs, armature winding, etc., will be dealt with both at that address and the Birmingham factory.



"BUT THINCS LIKE THIS, YOU KNOW, MUST BE, AFTER A FAMOUS VICTORY": A MEMORIAL GROUP DESIGNED AND EXECUTED BY MARY K. WATTS-JONES. Pholograph by Macbeth.









When Nature Fails

The healthy head of hair is nourished by a certain natural oil. Failure of this is responsible for harsh, dry, brittle thin, grey, falling hair.

closely resembles the natural oil of the skin, and its regular use rapidly promotes a fine, thick profusion of

HEALTHY HAIR:

because it nourishes the starved roots and cells just as an abundant Nature would do had she not, for various reasons, failed in her functions.

Gold Tint for Fair Hair. Sold by Stores and Chemists in 3s. 6d., 7s. and 10s. 6d. sizes. Or from Rowland's, 67, Hatton Garden, London





WATSON'S "SUNICA INTENSE" PRISM BINOCULAR GLASSES.

> Light in Weight. High Magnifying Power. Wide View and Brilliant
> Microscopic Definition. No Tourist can afford o be without one.
>
> The Finest Prism Binocular Glass in to Wide View and Brilliant

The Finest Prism Binocular Glass in the World. British Made Throughout. The Finest Prism Bino Water Proof, Damp Proof and Dust Proof.

the with Neck Sling, Best leather £11 0 0 "Switch" & 6 Print Binoculars £10 10 0 d strap. Exactly as dilustrated

W. WATSON & SONS, Ltd., Binocular Glass Makers to the Admiralty and War Office,

313, HIGH HOLBORN, LONDON, W.C. Ketablished 1887

THE PLAYHOUSES.

"TRIMMED IN SCARLET." AT THE GLOBE.

I it were worth while, the playgoer might reasonably ask how the heroine of the new American play. "Trimmed in Scarlet." contrives to afford her gorgeous costumes, and the costly appointments amid which she haves. Here she is

with the reputation

setting of a vicious woman, and yet you are to suppose

her misjudged and virtuous. A similar

inconsistency runs all through her

behaviour; in all ordinary relations

she presents a hard

and glittering ex

terior, yet get be low the surface,

and you find her

prepared for the

most romantic and ultra - sentimental quixotry. She is,

in fact, one of the

stock types of our

melodrama, the

melodrama of

character, and no

more convincing

than the marionettes of the cruder

contradiction in her

allows of showy violent effects, that can be passed off

as drama. Make

her a mother who

has not seen her

But



A HANDSOME PRIZE: THE KING'S CUP AT HENLEY.

By the courtesy of the Stewards of Henley Is " we included to reproduce in this issue of "The Illustrated London News" a photograph of the beautiful gilt Cup presented by the King to the winners of the Allies' Eight-Oar

son since he was a baby, and finds him in financial difficulties from which she is determined to secure his release; suppose him to have involved himself in fraud to save her reputation from the dealers in Press garbage and you can have a contest in reckless devotion between

the pair. But, of course, hers is the beau rôle, and she is to be seen apparently justifying all that scandal has said of her, and accepting a rallish admirer's cheque to free the boy from debt and dishonour—doing this, too, at the risk of losing her last chance of a marriage which will bring her rehabilitation. Of course, the playwright, Mr. William Hurlbut, allows her to skirt disaster; but he thrusts her into many picturesquely extravagant situations; and he has secured the right picturesque actress for the part. Miss Violet Vanbrugh

has got the seeming hardness of style and the suggestions of sentiment needed for the type. With her romantic temperament she can blend the inconsistencies of the woman—convey the idea of cynical humour and disillusionment, and yet imply capacities for self-sacrifice, lend naturalness and piquancy to a character wholly artificial. Good work is supplied by Mr. Chiford Heatherley and others; but Miss Vanbrugh is set the hard task, and hers is the success.

"THE DAUGHTER OF MADAME ANGOT." AT DRURY LANE

The charm of the Drury Lane revival of Lecocq's "Fille de Madame Angot," for which Sir Thomas Beecham and Mr. Arthur Collins are responsible, is the felicity with which the spirit of the period of this popular comic opera has been caught by all concerned—by the designer of the delightful scenery and costumes, Mr. Hugo Rumbold; by the librettist, Mr. Dion Clayton Calthrop; and the reviser of the lyrics, Mr. George Marsden, and, last and not least, by the musicians and vocalists of the company. At once in a rendering of this sort the value of training and ensemble, such as experience in grand opera imposes, makes itself felt; and, indeed, makes all the difference Here, at length, French light opera had justice done to it; and as a result of this, the famous numbers seemed to recover their freshness and gaiety. Artists such as Miss Desirée Ellinger, Miss Gladys Ancrum, and, despite his short notice, Mr. Webster Millar, came to their work with all the appearance of holiday mood, and yet with an intelligent mastery of their resources that infected the audience with their own vivacity and confidence. Mr. Aubrey Fitzgerald, Mr. Herbert Langley, and Mr. Arthur Wynn were all acc able. Mr. Goosens jun. conducted with happy intuition

"TILLY OF BLOOMSBURY," AT THE APOLLO.

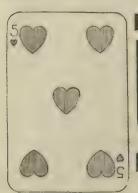
There must be something to be said for a play which serves as a vehicle for such delightful all-round

acting as "Tilly of Bloomsbury"; and it is but fair to admit that the second act of Ian Hay's adaptation of his story of the meeting of country house and lodginghouse is as merry a bit of fun as we have had for a long time on the stage. The broker's man turned butler of Mr. Arthur Bourchier is a comic creation that is full-blooded and yet avoids appeal to the groundlings; while Mr. Allan Aynesworth's portrait of a Micawber-like Oxford don come down in the world is only less entertaining as



PRINCESS MARY AT SILVERTOWN: H.R.H. LAYS
A FOUNDATION-STONE.

Their Majesties' daughter, Princess Mary, journeyed to Silvertown on July 10, and, attended by Lady Joan Mulholland, laid the foundation-stone of the West Silvertown Church Memorial Hall, on the site of the church which was destroyed by an explosion in 1917. The hall is in memory of the victims of the disaster.—[Photograph by Farringdon Photo. Co.]



Look at this
FIVE OF
HEARTS. One heart
in the centre, hemmed in by
one at each corner. Take these
four outside hearts away, and what do
you find?

Something which, in its own sphere, is all-powerful. Yet, hampered and bound by its four corner fellows, it is only of small potential value.

Surely there is a lesson to be learnt from this little allegory. The "unsuccessful" man is the centre heart. Hemming him in at all four corners are DOMESTIC STRIFE, POOR CIRCUMSTANCES, BUSINESS FAILURE, and INDIFFERENT HEALTH.

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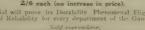
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["The Playhonies" con . . . | study. The young couple, too, of the cast, Miss Mary Glynne and Mr. Geotfrey Kerr, show a refreshing natural-Glynne and Mr. Geolifey Kerr, show a refreshing natural-ness in their sweethearting, though the material they have to work on is as hackneyed as that of "Caste." The plot, indeed, is full of echoes—echoes of Goldsmith and Dickens and Robertson—and the sentiment is equally traditional, hearts proving more than coronets. But Ian Hay's fun is undoubtedly funny, and the arrival of Miss Marie Wright's quaint old grandmother on the scene of the tea-party to give away Tilly and her parents in the presence of the grande dame whom Miss Marie Illington makes so formidable, is worth going some distance to enjoy.

"THREE WISE FOOLS." AT THE COMEDY.

Mr. Austin Strong's tale of "Three Wise Fools" is a mix ture and, like most American mixtures, strongly flavoured. On the one hand, there are the ingredients of crook drama, including not only a genuine crook, but an unjustly sentenced prisoner who is father of the heroine, and determined to take the life of a judge for condemning him to his term of imprisonment. On the other hand, there is sentiment in slabs, based on the guardian-and-ward motif there being here, however, no less than three old bachelor guardians, who, as rejected lovers of a common sweetheart. guardans, who, as rejected lovers of a common sweetheart, have formed themselves into a brotherhood of "musket-eers," and on the strength of a death-bed letter from their old flame, are content to adopt her child They all have their oddities—judge, doctor, and business magnate. That is the fare Mr. Strong offers us; but it is served so piping hot, and with such piquant sauce, that it proved quite appetising at the Comedy première, with Miss Margaret Bannerman as a Dresden-china-looking heroine possessed of a surprising amount of emotional power; with Mr. Charles Glenny making a most amusing character out of the swearing millionaire; with Mr. Arthur Lewis and Mr. Herbert Ross as his genial cronies; and with Mr. Pat Somerset presenting a pleasing picture of explosive youth.

"NOBODY'S BOY," AT THE GARRICK.

Twenty-five years ago is a long time to look back; and even those of us who saw "The Foundling" may be forgiven for forgetting what this farce was like: such a multitude of successors has it had which deserved oblivion. To judge by the new musical piece founded on it, "Nobody's Boy," its scheme only differed from the normal in having a foundling hero, just as the adaptation only differs from the average farce with music in containing a mimed prologue: this showing a bridal couple arriving at Brighton to discover a baby in their bed. The Victorian clothes are the really comic part of this situation. For the rest, there is a colonel pestered by a lady associated with his past, and rightly given a bad time by his suspicious wife; there

is sentiment attaching to the grown-up foundling, there are various taking airs in which sentiment is blended with humour; and there is a wealth of colour in many attractive humour, and there is a weathir of colour in that, y activated dresses to which the bride's costume in the prologue makes a happy foil. It is a pity that Mr. Horan's melodies and Miss Marjorie Gordon's bright singing, and the frocks, quite daring at times in a legitimate way, were not associated with a better story. But nobody seems to mind at the Garrick, and with Mr. Donald Calthrop acting easily, and managing his music well; Mr. Frank Lalor supplying broad humour; and Miss Gordon looking more winsome than ever--one may confess that the Garrick entertainment has all the recommendations that have recommended other shows of its type to popular favour and secured them long runs.

CHESS.

PROBLEM No. 3815 .- By J. PAUL TAYLOR.

BLACK. 章 直 章

WHITE. White to play, and mate in two move

SOLUTION OF PROBLEM No. 3813.—By H. F. L. MEYER.

WHITE

1. Kt to B 5th
2. Kt to K 6th
3. P to Q 4th (mate).

If Black play 1. Kt takes Kt (B 5th), 2. Kt to B 6th; and if r. B to Kt sq, then 2. Kt to B 6th (ch), etc.

Correct Solution of Problem No. 3810 received from R J Cornell (B.E.F., France); of No. 3811 from J B Camara (Madeira); of No. 3812 from G de Beneietti (Romel, and J B Camara; of No. 3813 from R C Durell (South Woodford), Erro, W A Guttridge (Pudsey), John Isaacson (Liverpool), and E J Gibbs (Upton Manor).

Correct Solutions of Problem No. 3814 received from A W Hamilton Gell (Exeter), A H II (Bath), G Stillingfleet Johnson (Cobham), J Fowler J C Stackhouse (Torquay), J S Forbes (Brighton), and W Dixon (Leeds)

J Polglase.—There does not appear to be a mate in your problem if Black play, z. R takes R, etc.

H S ASCHE and E ROBINS.-Your problems are correct and marked for

A M Sparke and S H C Lucas.-Problems to hand, with thanks.

CHESS IN ENGLAND.

Game played in the Murton Cup Handicap Tournan ent of the City of London Chess Club between Mr. J. Gilchrist and Sir G. A. Thomas, Bt. (Black gives odds of Pawn and move. Remove Black K B P.)

HITE (Mr. G.) BLACK (Sir G.A.T.) WHITE (Mr. G.) BLACK (Sir G.A.T.) 15. B to K 2nd 16. P to R 4th Castles

1. P to K 4th P to K 3rd 1. P to Q 4th P to Q 4th P to B 4th 3. P to K 5th P to B 4th 4. P to K B 4th Kt to Q B 3rd 5. Kt to K B 3rd Kt to R 3rd 6. B to Kt 5th Q to Kt 3rd

attack.

7. Kt to B 3rd Kt to B 4th

8. B takes Kt (ch) P takes B

9. Kt to Q R 4th Q to R 4th (ch)

10. P to B 3rd P takes P

11. P to Q Kt 4th Q to Kt 4th

12. P to Kt 4th Kt to K 6th

13. B takes Kt P takes B

14. Kt to Q 4th Q to R 3rd

15. P to B 5th

14. Kt to Q 4th C to R 3rd

15. P to B 5th

His choice is exceedingly lin ited, but he would have done better now to bring up his heavy forces while he has time. Q to K and or B 2nd, or K to K 2nd, with the intention of Castling while the adverse Bi-hops are still tied up, would fairly serve his purpose.

Lakes P (ch), etc.

23. B to B 3rd

B to Q 2nd

A blunder, but the gan e was hope-less in any care.

B to B 3rd

White re igns.

In trying to do too much with insufficient forces, White only betters Lis opponent's position.

17. Q to B 2nd P takes P 18. P takes P P to B 4th

A well-timed sacrifice by which the way is laid open for an assault on a practically defenceless King's wing.

19. P akes P Q to R 3rd
20. P to K B 6th P takes P
21. Q to Kt 2 (ch) K to R sq
22. Q takes P P takes P
23. Q takes P (ch)

Q takes R loses the Queen by B takes P (ch), etc.

TITLEPAGE AND INDEX.

The Titlepage and Index to Engravings of Volume One Hundred and Fifty-four (from January 4 to June 28, 1919) of THE ILLUSTRATED LONDON NEWS can be had, Gratis, through any Newsagent, or direct from the Publishing Office, 172, Strand, London, W.C.2

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MANAGARIAN M

THE CHRONICLE OF THE CAR.

Benzol from
Gas Works.

One of the principal matters of discussion nowadays is that of motorfuel and its cost, together with the

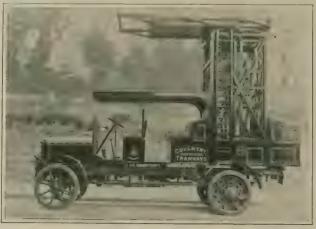
possibilities that exist of producing in this country a sufficient quantity to fill the whole of our needs, or, alternatively, to ofter effective competition to imported petrol. The subject has been discussed so often and at such length that I do not propose to enter now into any elaboration of the urgent reasons why we should strive to render the country independent of overseas sources of supply, or of how, generally, the problem should be approached. Every user of motor-fuel is sufficiently familiar with the broad outlines of the situation, and has a fair grasp of the sources to which we may look for an amelioration of the present condition of affairs. There is one matter to which I should like to refer, since I find it is imperfectly understood, and that is the question of the recovery of benzol from "town" gas. There have been a number of references lately to the desirability of washing gas for benzol—a term that conveys very little to the man in the street. As for that, the really technical side of this may be left to those whose concern it is. Every motorist, however, is deeply concerned with its practical aspect,

deeply concerned with its practical aspect, and it is as well, therefore, that he should have a reasonably clear conception of what is at stake.

In order to understand the subject of "washing" or "scrubbing" gas for benzol, it is necessary to follow briefly the processes of the gas-works. It is common knowledge that gas is obtained by the destructive distillation of bituminous coal The term "destructive" sounds rather terrible; but when it is explained that the conversion of water into steam means the "destructive" distillation of the water, it is seen that it is not so very dreadful, after all. Now, this "destructive" process in the case of coal from which the gas is to be extracted simply means that the coal is placed in a closed retort and is heated so that the volatile constituents of the coal are broken up and driven off in the form of gases. These gases have in them valuable products-ammonia, for instance-which may be recovered. Most gas companies recover the ammonia, which is a valuable factor in keeping down the price of the gas. Until the



A TROPHY FOR IRELAND: A HANDSOME ROSE-BOWL. This year's revival of motor-cycling in Ireland has its main interest in the End-to-End Reliability Run, under the auspices of the Motor-Cycle Union of Ireland. The Palmer Tyre Company, Ltd., has presented the silver rose-bowl which we illustrate, Mr. Mitchell, of that Company, being president of the Centre. The Palmer Trophy has featured in this Trial ever since its inception



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war, however, very few took the trouble to recover the benzol, and had no plant installed for so doing. The war caused a change, since benzol is the basis of T.N.T.; and at the conclusion of hostilities some 6,500,000 gallons of benzol were being produced annually.

The Need for More.

According to figures obtained by the Automobile Association, which has taken a strong lead in the campaign

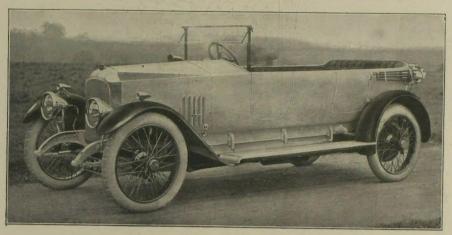
for the production of benzol, the total amount of British motor spirit which could be obtained from gas-works alone exceeds 30,000,000 gallons a year. The question of the illuminating and heating qualities of the gas has to be taken into account, however. Before the war, certain gas undertakings actually added a proportion of benzol to their gas to increase its standard. It is obvious that, where the coal used is inferior and lacking in certain constituents to this degree, it is hopeless to anticipate the actual recovery of a product which has actually to be added to the gas. Still, the Board of Trade report on gas standards confirms the view that considerable quantities of motor spirit can be obtained from gas-works, and there is no need to quarrel with the estimates furnished by the A.A. We can agree that

here is a large potential source of supply which should be developed—under compulsory statutory powers, if need be. It has been estimated by an eminent scientist specialising in this subject that the recovery and refining of benzol is a sound financial proposition for every gas undertaking with an annual output exceeding 75,000,000 cubic feet. In England alone there are more than 300 such undertakings with an output in excess of that figure. Obviously, here is a potential source of supply that should be encouraged in every possible way. It is not a narrow question of the con-venience of a section of the community, nor of " cheap fuel for the motorist." one of vital national importance. During the war we were dependent for every gallon of fuel for our aircraft and mechanical transport and tanks upon overseas supplies. It does not need insistence that, had the enemy succeeded in closing the sea routes, we must have lost the war by sheer inability to move. Never again must we run such risks, and on that count alone the campaign for developing every possible source of home fuel supply is justified to the hilt.





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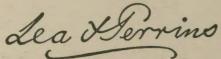






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